THE AUSTRALASIAN PHOTO-REVIEW

A·P·R

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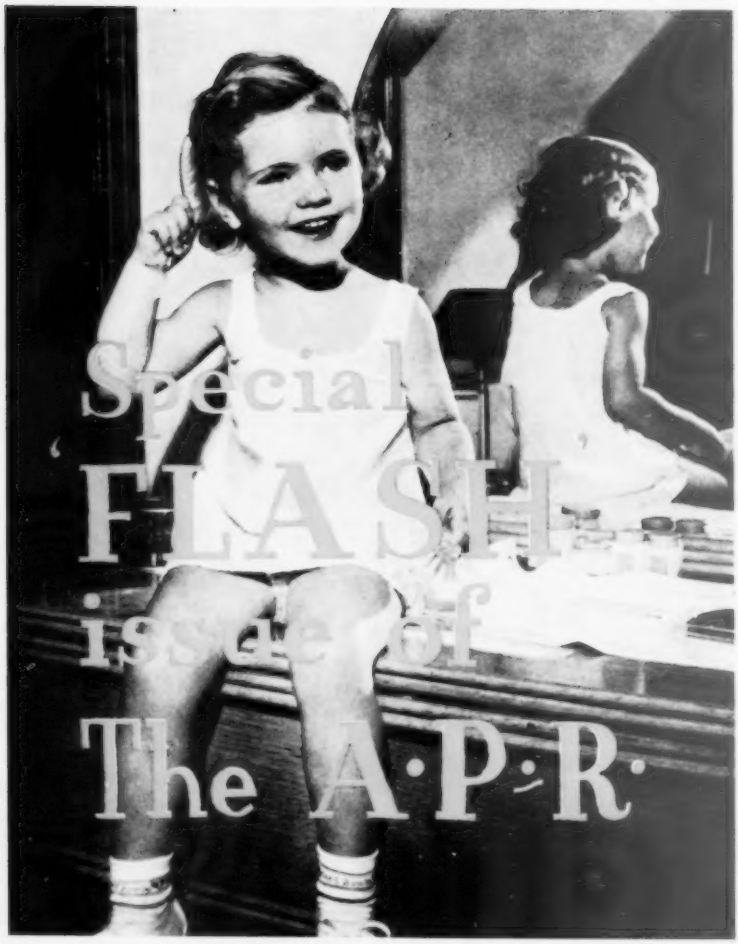
FOR THE ADVANCEMENT OF PHOTOGRAPHY



JUNE

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The Photographic Societies

Club reports should normally be written to cover club events of the last three weeks of the previous month and those of the first week of the current month. They should always be written up immediately and posted so as to reach 'The A.P.-R.' not later than the 10th of the month before publication.

In the absence of a completely typewritten report, all surnames and Christian names must be printed in CAPITALS. "Mr." should be omitted except in respect of patrons, visiting lecturers and judges. Women competitors should be identified by a single Christian name, rather than "Miss" or "Mrs." Accuracy with regard to spellings and initials is essential.

THE PHOTOGRAPHIC SOCIETY OF N.S.W.

Illustrated talks and demonstrations, similar in character to that given by Miss Solling on April 26 entitled "Modern Sculpture", are particularly interesting to members, as they help to reduce the inevitable insularity which leads to a certain monotony of subject matter.

Once again the monthly outing of May 1, this time scheduled for the Cronulla Sandhills, was completely "washed out" due to the rain. A feature of the evening on May 3 was the excellent showing of Canberra Photographic Society's prints and transparencies.

Mr. H. Hanke judged the general and pictorial colour competition on May 17, the results of which were: *Pictorial Section*: 1, Rosemary Johnson; 2, C. Marchant; 3, Marion Bjeering. *General*: 1 and 2, W. Dye; 3, Marion Bjeering. To conclude the evening, Mr. Hanke expounded ideas as seen from the training of an artist.

Visitors and intending members are welcomed to our weekly meetings, which are held every Tuesday at 8 p.m. in the Gallipoli Legion Hall, 12 Loftus Street, Sydney. For further particulars please contact the Hon. Secretary, Miss W. Schmidt, Telephone WA 2488. D.M.

THE CAMERA CLUB OF SYDNEY

The annual *Documentary or Action* Competition held on April 19 and sponsored and judged by Mr. Laurence le Guay brought forth an interesting array of prints, as well as some illuminating remarks by members during the print criticism. However, it was amply demonstrated that compositional arrangement plays as vital a part in this type of picture as in those of more conventional subjects and provides that vital element which lifts a "documentary" out of the mere "snapshot" class. Mr. le Guay's placings were: A Grade: 1, B. Gibbons; 2, C. Noble; 3, S. Ridley; HC, C. Noble and K. Hastings. B Grade: 1, J. Oliff; 2, G. Russell; 3, H. Gazzard; HC, K. Fox. The judge considered that the prints submitted were the best array that he had seen from our club in this competition.

Mr. Cliff Noble gave us some advice on Character Study Make-up on May 3. The lecturer, who is well known and highly regarded in all photographic circles, proceeded to turn our amiable Frank Cushman firstly into a sardonic chieftain of Islam and secondly into a villainous looking backwoodsman, to the great amusement of all present. The make-up used contained many standard items such as grease-paint, face powder, crepe hair, etc., but the colours were ingeniously contrived to conform to a scheme most suitably rendered by panchromatic film. The lecturer also gave many hints on the use of 'props' in achieving unusual effects in this type of work. After the demonstration, members were treated to a one-man-show by Mr. Noble, who exhibited a fine collection of his earlier attempts at serious work, and drew some interesting comparisons between the type of picture fashionable then and those considered to be first rate to-day. Such a comparison, in the lecturer's view, indicated that pictures being produced to-day were better than those considered to be good 15 to 20 years ago. J.E.O.

Y.M.C.A. (SYDNEY) CAMERA CIRCLE

On April 7, members heard an interesting lecture entitled *Work in the Islands*, by Mr. H. H. Chargois, F.R.P.S., F.R.S.A., dealing with the wartime activities of the Allies. A friendly Inter-club Colour-Slide Competition was held on April 21 with the Photographic Society of N.S.W. At last, the Camera Circle was able to reverse the result of previous inter-club competitions when Mr. J. W. Metcalfe judged the Circle to be the winner by *one* point. Award for the Best Slide was given to V. Hibbard of the Camera Circle.

Vice-President E. Holden gave an illustrated talk on May 5 concerning his recent trip to Switzerland.

June activities include: 2nd, Lecture, *The Photo Mechanical Process* by L. Padman; 10th to 13th, *Camerally* combined Camera Clubs holiday week-end at Yarramundi; 16th, Competition, "*Portraiture*"; 30th, Annual General Meeting. D.N.D.

NORTHERN SUBURBS (SYDNEY) CAMERA CLUB

The meeting on April 6 was devoted to an informal talk by Messrs. L. James and F. Cowper. The subject *Developing and Enlarging* proved most interesting, and with the audience participating many and varied were the theories advanced.

The competitions held on April 20 were judged by a panel of senior workers and the awards were: A Grade: 1 (Equal), T. Harrison and L. James; 2, F. Cowper; 3 (Equal), Muriel Jackson (2 prints). B Grade; 1, J. K. Jackson; 2, F. G. Charles; 3, J. Nicholson. C Grade: 1, D. Storey; 2, May Layman; 3, A. McGillivray. *Patterns*—A Grade: 1, L. James; 2 (Equal), Muriel Jackson and T. Harrison; 3, Rosemary Johnson. B Grade: 1, E. Springett; 2, F. G. Charles; 3, J. Jackson. C Grade: 1, A. J. Mitchell; 2, C. Potter; 3, D. Storey.

Two of our members successfully competed in the recent Muswellbrook Photographic Exhibition; Muriel Jackson was awarded a Bronze Medallion for her *Smoke Haze*, and L. James gained a merit certificate for his *Overture*.

The award for *Print of the Year* will be made on June 15. We anticipate a fine display of prints on this occasion. Visitors will be welcomed at 8 p.m. in the Upstairs Room, Dispensary Hall, 359 Victoria Avenue, Chatswood.

LEICHHARDT CAMERA CLUB

The club was very fortunate in having two guest speakers this month. On April 28 Mr. R. Turner spoke on *By the Wayside*, which was found to be most interesting and thought provoking. The second speaker was Mr. John Clucas of Kodak Ltd., who spoke on

A. J. Anderson being presented by Mrs. Gunns with the John Gunns Memorial Trophy. Club President and Honorary Life Member B. Jessop watches the presentation. Details of the trophy on the left.

Composition. The set subject for the month was *Circular Quay*, and Mr. Clucas acted as judge. He awarded *Print of the Night* to P. Callaghan and HC to D. Henzie and J. Driscoll. In the intermediate grade Shirley Crabb gained *Print of the Night* and HC went to M. Manners. In the Beginners Grade, R. Laxton was awarded *Print of the Night* and HC. A. McGregor gained the other HC.

Inquiries concerning the club may be telephoned to the Secretary, E. Wilson, MW 3731. P.J.C.

KADINA CAMERA CLUB

Our club was recently privileged to hear an outstanding talk by Mr. R. M. Andrews, entitled *Wild Life*. Mr. Andrews passed on to other members much first-hand information regarding the various problems he has solved in photographing bird-life in this district. His talk was illustrated with slides and prints.

Another interesting talk was delivered by Mr. R. White, who is one of our foremost colour workers. Mr. White gave us a practical and comprehensive outline of the procedure in Colour Processing.

The annual Movie Competition was won by K. Wood, the club being fortunate in having Mr. H. Harwood of Adelaide to judge this competition. While Mr. Harwood was in the district the club held a big film evening so that members could view his work. D.H.W.

ST. GEORGE PHOTOGRAPHIC SOCIETY

The first colour competition was held on April 5, the results being: 1, S. Barnes; 2, W. Denman; 3, S. Barnes; HC, C. Walker. The entries were judged by Mr. Cliff. Noble who, though unable to attend, kindly sent a written criticism of the slide of each successful competitor and some useful advice to all entrants. The entries were screened at the meeting and the high attendance at this first full colour night was very encouraging. F.J.

A NEW CLUB FOR WAGGA

The formation some months ago of the Wagga Photographic Group has fulfilled a demand in the Wagga district for a society to replace the previously disbanded Camera Club. The new group holds monthly print competitions and lectures, and offers all the usual club facilities, in addition to a special course in photography which is held at the Wagga Technical College.

Intending members and visitors to Wagga should contact the Secretary, Mr. A. Vine-Hall, 123 Docker Street, Wagga Wagga, N.S.W. A.V.H.

WOLLONGONG CAMERA CLUB ▲

The meeting on March 14 was devoted to a demonstration of miscellaneous photographic equipment kindly supplied by Ron Whyman, of Port Kembla, and ably assisted by his assistant and fellow club member, F. Gibson. A colour competition was held the same evening when B graders W. Houghton, M. Day and N. Teece gained credits. At the same time A grader A. J. Anderson gained a credit with a very fine colour portrait.

On March 28 Mr. J. Savage of Sydney gave a very interesting and well presented lecture entitled *My approach to Colour*. Club member K. Chittock was our lecturer on April 13, his subject being *Stereo Photography*. He supplied samples of his work and also 6 viewers for use of the audience. A print competition followed, resulting in a credit to N. Teece and two credits to D. Brooks, both being B Grade members.

Our Annual General Meeting was held on April 27, when Mrs. Gunns presented trophies to the winners of the various sections, the results being: *Print of the Year—John Gunns Memorial Trophy*: 1, A. J. Anderson; 2, B. Jessop; 3, D. Mascord. *Slide of the Year*: 1, S. Kennedy; 2, G. Burns; 3, (Equal), B. Jessop and D. Brooks. *Print Point Score*: 1, A. J. Anderson; 2, D. Brooks; 3, E. Woods. *Colour Slide Point Score*: 1, Edna Brown; 2, M. Day; 3, A. Hargraves. *B Grade Print Competition*: 1, D. Brooks; 2, E. Woods; 3, J. McQuillan.

To the complete surprise of the recipients, Honorary Life Membership was bestowed upon foundation members Bob Jessop and Bert Chambers for services rendered to the club. Each was presented with a sterling silver club badge. The evening concluded with a screening of colour and monochrome slides taken on club outings during 1954.

Meetings are held on alternate Mondays in Central Chambers, Crown Street, Wollongong, and visitors are always welcome. Our Secretary's address is D. Brooks, 16 Mountain Ave., Woonoona. D.E.B.

BELMORE CAMERA CLUB

The club held its seventh monthly meeting on April 4. The feature of the evening was a display of colour transparencies by club members, highlighted by the collection taken by Vince Davey, whilst on tour of Canada, U.S.A., and some of the Pacific Islands. These slides, together with a very able commentary, made the evening both interesting and educational. →

The members were so interested in the display of colour work that the remaining time did not permit for the adjudication of the Print Competition for the month, which will be carried over to the next meeting.
J. W.

THE CAMERAMATEURS

Since last reporting we have had a very active programme including several outstanding lectures. Firstly we enjoyed an exhibition of colour slides on *The New Guinea Highlands* by Mr. Edric Slater, A.R.P.S. This was one of the most enjoyable colour shows seen at the club in a long time. Our open competition was carefully judged by our friend W. Clifford Noble, who was faced with an all-time record entry of 62 prints. The competitive spirit in our club is very refreshing indeed and set subjects are just as well supported as open contests. The point score progress now stands: Senior: K. L. Aston, 15; K. Whitby, 11; H. Bergman, 10; Patricia Aston, 8. A Grade: I. Wilson, 15; J. Spiteri, 11; R. French, 9. B Grade: H. Hankinson, 15; Airlie Wilson, 9; R. Clifford, 9; A. Haig, 8.

Mr. Malcolm McGregor, A.S.T.C., presented an excellent slide show on *Australian Wild Flowers*. This show was very informative from both the photographic and botanical points of view, and the slides were of fine quality.

Membership of this club has now been opened to professional photographers after considerable debate on the matter. An informative prospectus will be gladly forwarded to anyone interested in membership. Write to The Secretary, P.O. Box 28, Paddington, N.S.W.
K.L.A.

NORTHERN DISTRICTS PHOTOGRAPHIC CLUB

The meeting held on April 20 was attended by 27 members, including several ladies. Mr. Nasmyth delivered an excellent lecture on *The Development of the Negative* and gave a practical demonstration of the importance of contrast being governed by development only. Opportunity was given at the meeting for criticism of prints in the *Marine and River* contest.

Organisation has now further developed by the appointment of a judging panel, who will submit their proposed method of operation for consideration at the next meeting.

Enthusiasts, whether they be advanced workers or merely beginners, are invited to attend our meetings which are held in the West Ryde Masonic Hall on the first Monday of each month at 7.30 p.m. and on the third Wednesday of each month at 8 p.m. R.G.J.

NEWCASTLE PHOTOGRAPHIC SOCIETY

We are pleased to report that the Society raised £33 for flood victims at an exhibition of photographs and colour slides at the Newcastle City Hall.

The Lord Mayor of Newcastle (Alderman F. J. Purdue) in opening the exhibition, thanked the club for its help. Earlier, the club had donated £10/10/- to the Lord Mayor's Flood Relief Fund.

CARINGBAH PHOTOGRAPHIC SOCIETY

A combined print and slide competition was held on April 11, at the Catholic Hall, Caringbah. The set subject was *Candid Holiday Shot*. Placings were: *Prints*: 1, H. Quigg; 2 and 3, C. Carmichael. *Colour Slides*: 1, R. B. Mills; 2, C. Carmichael; 3, R. B. Mills.

April 18 was an informal night and members were invited to bring along their cameras and flash equipment when Mr. G. Hargreaves gave a lecture and demonstration on flash photography.

The set subject for the Colour Competition on April 25 was *Australian Wild Flowers*, and placings were: 1, R. N. Dallimore; 2 and 3, C. Carmichael. *Open*: 1, C. Carmichael; 2 and 3, R. B. Mills. A number of members of the newly formed Sutherland District C.C. paid us a fraternal visit on this occasion and were very interested in the competition and the work of our Society.

It is hoped that more local clubs will accept our invitation to come along and take the opportunity of meeting members and further an interest in inter-club competitions. An invitation is also extended to any person interested in photography who would like to attend any of our meetings. For particulars contact C. Carmichael, 26 Matson Cr., Miranda (LB6549), or Box 21, P.O., Caringbah, N.S.W.

BLUE MOUNTAINS CAMERA CLUB

A programme for the year has been worked out by the committee and approved by the members. The recent print competition resulted in a win for member Burton with his study of historic Katoomba. A pastoral scene by member Shirlow gained second place.

Messrs. Stewart and Clucas, of Kodak Ltd., paid us a visit on April 28, when Mr. Clucas delivered an instructional lecture on *Composition*, which should result in a noticeable improvement in the work of all present. A colour slide contest is to be held shortly.
D.L.

SUTHERLAND DISTRICT CAMERA CLUB

A new club has been formed to serve the photographic interest of the many people living within the Shire of Sutherland. The inaugural meeting, held on March 10, was enthusiastically attended in spite of torrential rain. Election of office-bearers resulted: *President*, W. Glading; *Vice-president*, G. Hearns; *Secretary*, Jeanie Burrows; *Asst. Secretary*, C. Green; *Treasurer*, J. McCarthy; *Publicity Officer*, L. Brown; *Print Officer*, W. Nicholls; *Patron*, Mr. F. Hegarty.

Meetings will be held at the club room in Toronto Parade, Sutherland, on the second and fourth Thursdays of each month. Prospective members and visitors are invited to contact Mrs. Burrows, telephone LB 2455 (in the evening only).
J.B.

BRISBANE CAMERA GROUP

The results of recent competitions were: March: *Outdoor*—A Grade: 1, J. E. Vautier; 2, Mrs. J. Bennett; 3, L. G. Hall. B Grade: 1, Mrs. I. Nicholl; 2, A. Lindner. *Indoor*—A Grade: 1, Mrs. J. Bennett; 2, L. G. Hall; 3, J. E. Vautier. B Grade 1, A. Lindner. *Face or Figure*—A Grade: 1, Mrs. J. Bennett; 2, S. J. Smith; 3, J. E. Vautier. April: *Outdoor*—A Grade: 1, Mrs. J. Bennett; 2, J. Vautier. B Grade: 1, A. Lindner; 2, Mrs. I. Nicholl. *Indoor*—A Grade: 1, L. Hall; 2, Mrs. J. Bennett; 3, J. E. Vautier. B Grade: 1, Mrs. I. Nicholl. *Face or Figure*—A Grade: 1, J. E. Vautier; 2, Mrs. J. Bennett.

On May 4 we were privileged to witness a demonstration of print finishing by Mr. L. Mackay. Mr. Mackay is well known for the manner in which he meticulously retouches his prints and his applications of carbon pencils, oils, etc., were an eye-opener, especially to the newer members of the club. W.R.

The AUSTRALASIAN PHOTO-REVIEW

A.P.R.

Editor:
KEAST BURKE, A.R.P.S., A.P.S.A.
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KODAK DATA BOOK

FLASH TECHNIQUE

Have you noticed that pictures have become more interesting in the last few years? Family snapshots, magazine illustrations, advertising pictures have all gained in appeal. If we look closely, we see one of the reasons—more and better indoor pictures. They are no longer static, but have a liveliness that speaks of their making—with flash bulbs or electronic flash lamps, which have made such family pictures possible and have simplified professional ones. Indoor flash pictures, especially when made with cameras having flash shutters, are as easy to make as outdoor snapshots. So great is the popularity of flash picture taking that over four hundred million bulbs are used annually.

Flash pictures can be made readily of people doing things, and without the squinting eyes caused by dazzling lights. Picture making is easy in otherwise difficult or impossible situations—at parties, banquets, meetings, weddings, sports, and other activities away from power supply. Flash is the answer in daylight situations not light enough for snapshots. It also makes practical beautiful back lighting in sunlight by filling in shadow detail in nearby subjects.

With this tremendous increase in the number of flash pictures, an urge to make better pictures has developed gradually. In the past there were few who paid much attention to improving the results—it was enough to get the pictures which were impossible or too difficult without flash. But today many photographers ask, "How can I make my flash pictures better?" It is principally to this growing audience that this book is directed.

In this Data Book, technique comes first, as we assume that you are at least partly familiar with principles. Proper care of your equipment, use of fresh batteries, and close adherence to the manufacturer's instructions should assure reliable flash photography. If you have not already entered this delightful new photographic world, the door is open.

Technique for Better Pictures

Tell a Story. Before you take a picture, stop a moment to think. What do you want the picture to show? The expression on a person's face? What a group is doing? Or something they are looking at? Decide which is to be the story and then make that one point the centre of interest—by subject arrangement (composition), by point of view, by lighting, and by selective focusing. Light up the centre of interest, play down everything else with subdued lighting. Pictures that say something are interesting pictures not only to you and your friends, but to everybody. Notice that competition-winning pictures are usually pictures of people busy doing things, often unaware of the picture taker. You can see clearly what they are doing. Study the pictures and captions in this book; they illustrate these points.

Subject Arrangement. When possible, subjects should be placed so that the centre of interest will be emphasised. This is particularly important when using single flash on the camera. Place the centre of interest where it will get most light. Keep constantly in mind the way light falls off with distance. Make this fact work for you. If you want to avoid a black background, place your subject, if possible, near a light-toned wall or drape to pick up a good share of the light from the flash. To get even lighting with flash on the camera, the subjects must be at nearly equal distances from the camera. Of course, it is not always desirable to light everything evenly.

Viewpoint. Sometimes a careful selection of camera viewpoint will bring the lighting into better balance. But it's not always possible to control subject position and surroundings. Sometimes we have to accept things as they are. There are various ways of overcoming these lighting problems.

Light Position and Direction. Better light control can be achieved by removing the flash holder from the camera and using a Kodak Flash

Interrupted action type picture with emphasis on the action.

Holder extension cord. For example, a scene may have something in the foreground which, although desirable in the picture, should be subdued. Concentrate the light on the main subject and light the subordinate foreground details with light "spilled" from the edge of the light beam. This is sometimes called "feathered" flash, and the technique is described in the following section. This same method can be used to equalise the light along a long subject receding into the picture background. Or, the flash can be held far to one side or up high, and the light aimed toward the rear of the "deep" subject. If you want to light a deep subject so that it will appear evenly lighted in the print, you must direct more light to the more distant subjects.

You can also increase the modelling or third-dimension effect by using the flash holder off the camera.

Control your Flash to get the effect you want. Various methods are discussed in the sections that follow.

Take Advantage of Reflecting Surfaces. Another practice for boosting the quality of your flash pictures is to keep a sharp lookout for light-toned surfaces. Use these surfaces to reflect light into areas which will not get direct light from your flash. Or you can make a reflector out of any light-toned material, such as cloth, paper, cardboard, white blotter, semi-matte white oilcloth, etc., and position it so that it will reflect the light just where you want it. Be careful that it does not show in the picture. By lightening the shadow areas to show detail, this will

A typical straightforward flash picture.

give better print quality. It is especially important—and doubly important when using colour film—to soften the shadows caused by using the flash off the camera.

Measure Distance. Remember that, at a lamp-to-subject distance of 4 feet, the subject gets twice the light that it does at 5½ feet.

Background Shadow. To minimise sharp, black shadows behind the subject, choose your position so that the background is at an oblique angle to the camera, rather than at 90 degrees. Another trick is to have the subject in actual contact with the background and then use the flash holder just above the camera.

Reflections. Watch out for annoying reflections from shiny objects in the picture, such as windows, mirrors, highly polished furniture, or other very glossy objects. You can avoid having reflections show in the picture by shooting at an oblique angle to the reflecting surface.

Red-Eye Effect. On rare occasions with pictures of people, especially young children, you may get a "red-eye" effect. On colour film, the pupil of the eye actually looks red; on black-and-white film, the pupil looks unnaturally light. This rather eerie effect is caused by internal reflections in or near the retina of the eye. It can be avoided by increasing the spacing between the flash lamp and the camera lens, if the flash holder can be removed, or minimised by having the subject in a brightly lighted area.

Settings for Quick Reference. If you take most of your flash pictures on one film with one type of flash bulb, put a distance-aperture table on your reflector. You can compute it from the appropriate guide number. Write it on adhesive tape and stick it to the reflector. In some cases you can stick a scale of computed apertures right at the focusing scale. See details in the exposure section.

Good Habits. Develop a set of good habits. Go through the mechanical routine in the same sequence each time, and the details will become habitual and make slip-ups infrequent. A good sequence is:

1. Change flash lamps.
2. Adjust synchroniser (if required).
3. Set shutter speed
4. Cock flash synchroniser lever (if required).
5. Compose scene in viewfinder.
6. Focus.
7. Set lens opening.
8. Shoot to catch good expression or action.

Not Sure of Synchronisation? If you have a chance to get a good flash shot at a time when you may be dubious about the synchronisation, you can be practically 100 per cent sure of getting the picture by using Class M lamps (see page 370) as follows: Set the shutter time at 1/25 second and the synchronising adjustment (if the shutter has one) for Class F lamps. Use the guide number for "open flash".

Since you are using Class M lamps, the effective exposure time is 1/50 second, fast enough to stop most normal movement. In emergencies, this method can save many a good shot that otherwise would "get away". Incidentally, this technique makes use of *all* the light from the lamp. The usual M synchronising cuts out some.

Flash at the Camera

Picture taking with a single flash lamp in a flash unit attached to the camera is the simplest and most popular form of flash photography today. Used with care, it yields good results for pictures of sports, parties, weddings, children, pets, etc. In fact, the quality is so consistently satisfactory that flash pictures should be made with the unit on the camera *unless there is good reason for taking it off.*

The Position of the Flash Reflector with respect to the camera lens is important. For most purposes, it should be slightly higher than the camera lens. This places the shadows down behind the subject where the camera lens cannot usually see them. It gives relatively "natural" lighting—the lighting people are accustomed to with highlights above and shadows below. When changing from a horizontal to a vertical camera position, or vice versa, the camera should usually be turned to position the flash reflector above the lens.

The high-key effect in this baby picture resulted from using a flash held high, assisted by reflections from light-toned surroundings.

Proper Use of Flash-Exposure Guide Numbers. Good exposure with flash-on-camera pictures is easy—you use a so-called "flash-exposure guide number". The guide number works this way—the guide number, divided by the flash-to-subject distance in feet, gives you the *f*-number of the lens opening. What takes judgment is deciding how the subject should be classified and how far away it is.

Standard Camera Settings. There are times when standardised camera settings and exposures will yield a higher number of successful pictures than an attempt to calculate meticulously the settings for each picture. Dinner parties, weddings, sporting events, news events, the circus, the rodeo, and similar busy affairs usually leave little time for calculation and camera manipulation. With the camera set ahead of time, in anticipation of certain action, the mind is free to concentrate on getting a well-composed "live" picture showing real action or a genuine expression. A slight shift of the camera position, backwards or forwards, will quickly bring the subject into accurate focus.

The following settings provide good basic exposures for most of these picture situations.

Shutter at 1/25 second, using Kodak Super-XX Film and G.E.C. No. 3 or PF.3 lamps.

Indoors:		
Close-ups	Focus at 6 feet	*f*/16
Full figures	Focus at 10 feet	*f*/11
Outdoors:*		
Close-ups	Focus at 6 feet	*f*/11
Full figures	Focus at 10 feet	*f*/8
Group	Focus at 20 feet	*f*/4

*Or in very large rooms or auditoriums.

For groups such as this a high viewpoint for flash and camera results in more even distribution of light.

Group Pictures. It is easy to expose correctly for a single subject, but what about a group? Something with depth? What is the right lamp-to-subject distance to use? Calculate the distance to the middle of the group for a compromise exposure. This will give a reasonably good exposure to the majority of the group. With black-and-white film, the ample exposure latitude often results in satisfactory pictures.

With colour film and a deep subject, however, the foreground will be somewhat over-exposed and the distant parts will be dark. To get a more uniform exposure, you can shoot from a higher viewpoint, preferably higher than the subjects. Or, you can get farther away. In both cases, you are equalising the subject illumination by reducing the relative difference between the two distances (flash to farthest subject distance and flash to nearest subject distance).

Still another method is to group the people in a curve to equalise the lamp-to-subject distances.

Candle Flame and Christmas-Tree Lights can be emphasised with this technique. Candle flames seem to register through a wide range of exposures, but, of course, they will show up stronger if the flash is adjusted to give an exposure of 1/25 second at *f*/16 or more with Kodak Super-XX Film (1/25 second at *f*/5.6 or *f*/4.5 for Kodachrome Film, Type A). Christmas-tree lights require more exposure; for example, ½-second at *f*/4.5 with Kodachrome Film, Type A, will record them.

For making a picture of the outside of a snow-covered home with Christmas lights and decorations, a time exposure will register the lights, while a moderate amount of flash will give some general illumination. Beware of using too much flash or the night effect will be spoiled.

A typical exposure for Kodachrome Film, Type A, is 16 seconds at *f*/11 (2 seconds at *f*/4) with a G.E.C.No. 5 or PF. 25 lamp flashed during the exposure at about 25 feet from a white house.

Using Existing Light. Because flash usually comes from just one direction and produces sharp and sometimes unpleasant shadows, better pictures result if the exposure is such that existing light is allowed to register. The secret of making use of existing light is to use a slower shutter speed and a wide aperture with reduced flash intensity, as described in the following paragraph "Penetration".

"Penetration" in Flash Pictures. When flash pictures are taken in a gymnasium or other large room, a distant wall will sometimes record as a background even though it is far beyond the range of the flash and aperture used. It is easy to assume that the flash has some unexplained "carrying power". Actually, the exposure is mainly from existing room

A slow shutter speed allows time for candle flame to register on the film (see opposite page).

lighting. In order to take advantage of this effect, you should know what conditions favour it. These are:

1. The room is brightly lighted.

2. A long shutter time is used*. A 1/25-second exposure will record more background than 1/50 second, with little change in aperture required for the flash. Even with a 1/25-second setting, the flash exposure time is still about 1/50 to 1/200 second, depending on the type of lamp used. The quick, action-stopping flash of the lamp (especially Class F lamps) effectively stops moderate action near the camera, while distant action can be stopped by the slower shutter speed.

3. A small bulb is used, since it requires a larger lens aperture than does a large bulb. Or put a handkerchief over the flash.

4. A small electronic flash unit (100 wattsecond) is used. This usually requires a larger lens aperture than a small flash bulb.

*One caution: If the camera is set for a long exposure, such as 1/10 second or 'bulb', and there are bright lights, windows, etc., in the scene, the camera must be used on a tripod or some other firm support and the subjects must be still. Otherwise, these bright objects will be blurred by camera or subject movement while the shutter is open.

COMBINING FLASH WITH DAYLIGHT INDOORS

Sunlight. When combining sunlight and flash indoors, it is usual to base the camera settings on the sunlight, and to use the flash as supplementary light illuminating the shadows. To make sure you don't use too much flash, divide the guide number for the shutter time you are using by the lens opening required for the sunlight exposure. This will give you a distance in feet at which to use flash with colour film. For black-and-white film, multiply this distance by two. If you use your flash unit anywhere between these two distances, you will get a better picture than you could get by either sunlight or flash alone. The amount of flash can also be reduced by using one or two thicknesses of white handkerchief over the flash. (For flash outdoors, see section on Fill-in Flash).

Daylight Plus Flash Indoors. Unless a silhouette is wanted, pictures of subjects against a window or glass door must have some form of auxiliary lighting to balance the daylight. By exposing carefully for the daylight and using carefully adjusted flash light, as previously described, a delicate range of tones can be produced. Here, as in most auxiliary lightings, the purpose is to get soft middle tones in the shadows, not to eliminate the shadows, so moderate the flash.

Without flash there would be no detail in these subjects, backlighted by sunlight.

Discreet fill-in flash renders fine detail in the shadows.

Porch Pictures. Since daylight on a porch is easy on a baby's eyes and flash is too quick to bother them, the combination is ideal for baby pictures. It gives a soft, smooth rendering of a baby's skin. Use the flash as the main light and let the daylight fill in the shadows. Use a flash guard and avoid extreme close-ups with babies.

Ultra Close-Ups. In close-ups of flowers, birds, and animals, flash is very useful. It provides such an abundance of light that fast shutter speeds, together with very small lens openings, can be used to stop movement. Since the depth-of-field range is very limited in close-up work, it is often necessary to use the smallest possible lens opening. It may be necessary to swivel the flash holder to get even illumination, and this, in turn, may necessitate using one or more thicknesses of handkerchief over the flash to avoid over-exposure.

Guide numbers for flash lamps in reflectors do not hold true for very close distances. This is because the "inverse-square law", on which guide numbers are based, is true only when the size of the light source (reflector) is small compared to the distance from the lamp to the subject. For instance, a 4 to 5-inch reflector, such as is used on many flash units, is large enough compared to a subject distance of 2½ feet or less so that guide numbers cannot be used here. Lens settings for ultra close-ups must be found by test.

Flash and Daylight Outdoors

Flash is used extensively today to supplement daylight. It is used to reduce excessive lighting contrast and so improve the quality of pictures of nearby and close-up subjects. This is especially important when using colour films, for which a lower lighting contrast is generally preferred. In fact, fill-in recommendations usually call for more fill-in light for colour pictures than for black-and-white.

In a subject of this nature flash throws light into shaded areas where most needed.

There is no need for the subject to squint into the sun where flash is used for the main light outdoors.

Flash is also used to boost the illumination when the light is dim, just to make sure of getting the picture. Press photographers, particularly, must often get a picture the first time under uncertain conditions. Flash assures them of adequate light; the basic flash exposure is used, determined from the regular guide number.

Delightful pictures are made using the sun as a side or back light and flash to prevent the shadows from going too dark and losing detail. One of the disadvantages of strong sun front lighting is subject squint. With flash, the sunlight can come from either side or behind the subject so that it will not cause squinting and frowning—much more comfortable for the subject. Use blue-tinted lamps with daylight-type colour film.

Lens Setting for Fill-in Flash. Bright sunlight, by itself, produces too great a brightness range. In fact, the ratio between the light intensity of the highlights and shadows may be 7 to 1 or higher. It is desirable to reduce this ratio, possibly to 3 to 1, for good shadow rendering, especially in colour.

Determination of lens openings for fill-in flash differs from the case where the picture is taken by flash alone. The *lens setting* is based on the sunlight falling on the subject; the amount of *fill-in* required is dependent on the lighting ratio desired. It is important to realise that the amount of flash fill-in needed depends more on the light already on the subject than on film speed. So, for a given fill-in situation, the lamp-to-subject distance is the same for any film. The lens opening is set for sunlight with the film being used, as in a front-lighted subject. Bear in mind, of course, that the flash exposure must not be as much or more than the sunlight exposure, or you will spoil the sunlight effect. For example: If the exposure given was based on a normal sunlight exposure of 1/100 second at *f*/11, and yet a flash was used which called for a normal exposure of 1/100 second at *f*/32, the sunlight would be "drowned out." The flash must be adjusted until it provides appropriately less light than the sun.

Flash should be adjusted to bring out shadow detail without overpowering the daylight.

It is true that the light from the flash is also added to the sunlit parts. This affects the lighting ratio, but is not enough to change the required lens setting.

How to Adjust Fill-in Ratio. The ratio of sunlight to fill-in flash can be changed by changing the shutter speed, as well as by varying the lamp-to-subject distance or the flash intensity. The relative flash intensity is high for 1/100 second—hence, the long distance, whereas the relative flash intensity is low for 1/10 second so that the flash can be moved in close. The reason is this: The film is exposed for the entire time the shutter is open (say 1/25 second), while the flash exposes the film for only a fraction of the time. When you cut the shutter time in half (say to 1/50 second), you cut the sunlight in half, but the flash is cut hardly at all. Only above 1/200 second does the shutter cut the light of the lamp and sunlight about equally. Of course, when the shutter speed is changed, the lens opening must also be changed so as not to change the exposure for the sunlit parts.

Actually, the shutter times which can be used in your own case depend on the synchronising arrangements of your equipment. The amount of fill-in light is largely a matter of personal preference and also depends on the use to be made of the picture. Colour transparencies or negatives which are to be colour-printed or reproduced photo-mechanically should have more fill-in than those intended for viewing and projecting. Dark-coloured objects and subjects with deep shadows need more fill-in than do pictures of people. A few experiments with your own equipment will soon indicate the best lamp distances for your purposes.

If an assistant is available to hold the lamp (provided it can be removed from the camera), you will have greater flexibility in the amount of fill-in and its direction. Close-ups, in particular, will have too much fill-in unless the lamp can be moved farther back. An alternative method of reducing fill-in light is the use of a clean, white handkerchief draped over the reflector and lamp. This reduces the intensity by about one-half.

An Alternative Approach to Fill-In. Some photographers prefer to control lighting ratios by making use of the regular guide number for the film-lamp-shutter speed combination being used. For this method, set the lens opening and shutter time for proper exposure with the sunlight. Divide the guide number by the lens-opening *f*-value. The result is the distance, in feet, at which to place the flash to equal the sunlight. Move the light back to twice this distance to get about a 4-to-1 ratio. It should be remembered that the ratio will be reduced somewhat either by the amount of light already being reflected into the shadows from the surroundings or by haze, if the sky is hazy.

Flash away from the Camera

FOR IMPROVED MODELLING

Position the flash higher and to one side of the camera. This will provide highlights on one side of the subject and shadows on the other. The farther the flash is held from either side of the camera, the deeper the shadows. These shadows should be softened by using a reflector, as previously described, to throw light into the shadows. Considerable improvement of picture quality is possible this way. No exposure compensation is necessary if the flash is aimed squarely at the subject and the flash-to-subject distance is carefully determined. However, care should be taken that the flash holder does not appear in the picture area and that it is not extended too far to the side. If a line from the flash to the subject makes more than a 45-degree angle with a line from the camera to the subject, the flash becomes a side or back light and usually requires a reflector or a second flash to fill in the shadows.

Flash held high improves modelling of subject.

EQUALISED LIGHTING TECHNIQUE

A unique method of equalising the exposure for both near and far subjects and, incidentally, of stabilising the exposure settings is to tilt the flash upward from a straight ahead position. Some photographers call this "feathering". This method is good for pictures of groups at work or play, at conferences, classes, dinners, and similar functions.

With an extension unit set at *normal* bulb position, it works this way: Clamp the unit to a lamp stand, position the flash well above the group, and direct it toward it. Now tilt the reflector upward until the person nearest to the light can see just the base of the lamp socket. Connect the extension unit to the camera shutter with an extension cord. Measure the distance from the lamp to the nearest subject and determine the normal exposure, but open the lens two openings more. Or, where it is desirable to feather sideways, tilt the reflector away from the nearest subject and toward the farthest subject. Determine and use the normal exposure settings for the farthest person. In either case, you are now all set for a series of pictures, close-ups, or general views, all at the same exposure.

Diagram shows how to place flash for group at unequal distances from camera, illumination is evened up.

You may wonder, why use flash if a stand and extension cord are involved? Wouldn't I be just as well off with flood light? In those cases where the lighting must be critically studied, flood is probably your answer. But the action-stopping, expression-catching advantages of flash, added to the obviously increased comfort of the subject and the great

depth of field possible, usually tip the scales in favour of flash for this type of work.

One of your subjects may say, "I think my eyes were closed when you took that". Ask if the flash appeared pink or white. If pink, take it over because closed eyelids made it appear pink.

The use of a lens hood is desirable when making pictures with the flash off the camera.

BARE-BULB FLASH *Caution: Do not use with flash at the camera.*

This rather unusual method of using flash yields pictures with a tonal quality par excellence. If you can conveniently remove the reflector from your flash holder, and your flash holder from your camera, give it a try—the results will surprise you.

With bare-bulb flash lighting, the subject is lighted with both direct light, of lower intensity than reflector flash, and the light reflecting back from the surroundings. If the picture is made in an average-size room with light-coloured walls, the resulting lighting seems as effective as multiple flash. First, the highlights have a soft yet luminous quality, and secondly, the shadows are transparent, showing fine detail. The lighting contrast is very pleasing, similar to that *interpreted by your eyes* as you look at the actual scene, and increases as the lamp-to-subject distance decreases. The lighting resembles that from the sun on a hazy-bright day. Background illumination is improved.

Wider Lens Opening Required. To make up for the loss of light intensity on the subject, increase the lens opening over the normal, determined by the guide numbers for 4 to 5-inch polished reflectors. The amount of increase depends chiefly upon the reflecting power of the surroundings and the flash-to-subject distance. The following allowances have been found to yield good results, but it cannot be emphasised too

Bare bulb flash softens harsh shadows.

strongly that the individual picture situation will have to be judged on its own merits. There is no rule which can cover all picture situations. The room size and colour of the walls have a much more marked effect here than they do with reflector flash.

Pictures in small, light-coloured rooms at average lamp-to-subject distances, require an increase of about 1 lens opening; medium size rooms, about 1½; and large rooms, 2. Dark-coloured rooms require an additional increase of ½ to 1 lens opening.

Whenever it is practical, try out your exposures ahead of time, or bracket the exposures and make one picture at the calculated exposure setting, another at one full lens opening over this setting, and still another at one full lens opening under this setting for black-and-white; vary the exposures by half lens openings for colour film. A method of using a light meter to measure the exposure increase is described in the next section.

Technique. Picture-taking technique differs very little from that with regular flash. To take the fullest advantage of this type of lighting, have the flash lamp on an extension, preferably with a long cord. The extension can be clamped high and to one side to give a good lighting effect. Use a lens shade and guard against direct rays striking the camera lens and causing flare.

This technique simplifies the taking of party pictures, such as a children's birthday party at the table. The exposure is figured for the table centre. The photographer is then able to walk around, shooting as the opportunity occurs for catching animated expressions and gestures, without changing the aperture setting.

Used as a Fill-In. Other useful applications of reflectorless flash are: as a fill-in flash when a reflector flash would be too strong, either in conjunction with other flash lamps or with sunlight; as a way of bringing the lights into balance in a multiple-flash set-up—for example, it is very effective as a combined background and back light; for close-up work where reflector flash would produce over-exposure.

Basic exposure (in a medium-size room with medium-coloured walls) for Kodak Super-XX Film with G.E.C. No. 3 or PF. 3 flash lamps held to the side and up at arm's length, shutter set at 1/25 second:

Close-ups	Focus at 6 feet	*f*/16
Full figures	Focus at 10 feet	*f*/11

Caution: Avoid this technique with colour film near coloured surroundings; coloured reflections can change the original colours, often with unpleasant results.

INDIRECT FLASH

As its name implies, indirect flash is a technique of directing the light of the flash against walls and ceilings so that it is reflected from them to the subject. This is sometimes called "bounce lighting". While this technique is of value with black-and-white materials, it is not suitable for colour work unless the reflecting surfaces are white.

The lighting can be made to simulate daylight or multiple flash. With skill in directing the flash, it is also possible to spill a little direct light onto the subject to "pep up" the highlights.

Generally, the subject is placed fairly near a wall or, preferably, a corner. The flash is directed so that the light will be reflected from the walls and ceiling.

More Exposure Required. Exposure must be increased. Here, again, no definite rules can be given because we are dealing with reflected light and, therefore, the conditions vary unpredictably. The photographer will have to use judgment in making his exposure adjustment. Keep in mind that changes in distance of flash to ceiling, wall, etc., make a big difference in subject illumination and therefore exposure. The following basic exposure has produced pleasing pictures and can be used as a guide. It is based on average-size rooms with medium-coloured walls and average-height, white ceilings.

For Kodak Super-XX Film, with the shutter set at 1/25 second and using G.E.C. No. 5 or PF. 25 lamps:

Focus at 6 feet with flash next to camera at eye level—*f*/16

Focus at 10 feet with flash next to camera at eye level—*f*/11

This is an exposure increase of about 2 lens openings.

Using a Light Meter to Measure the Exposure Increase. The ratio between direct and indirect illumination for any given set-up can be measured with a light meter as follows: From the same position as the flash, use a continuously burning lamp in a reflector. Point the light directly at the subject and measure the incident illumination on the subject. Then direct the light toward the reflecting surface and again measure the subject illumination. The difference in the meter readings is a measure of the exposure increase required.

Multiple Flash

Why More Than One Flash Lamp?

More than one flash lamp is often used to gain versatility and more control of lighting. With this added versatility and control of high lights and shadows—and, therefore, lighting contrast, you can produce pictures of exhibition and professional quality.

Multiple flash is used in a great variety of situations and is especially useful for lighting large interiors, particularly if moving objects or people are included in the picture. In order to get more even illumination when photographing large groups, it is essential to aim more light at those in the group located farthest from the camera. This is readily done with additional flash lamps in extension units. Be sure the cords and units are either far enough out of the picture area or are hidden so they will not show in the final picture.

A TYPICAL SET-UP FOR TWO LAMPS

Place one light at an angle so that it will produce highlights and shadows which give the effect of depth. Although we can see detail in some shadows because our eyes have the capacity to adjust automatically, the detail may not show in the print. So, use another flash to light up the shadows enough to reduce the lighting contrast. This reduced contrast will enable the print to show the shadow detail. Position the second light close to the camera-to-subject axis (usually on the camera) so that it will not produce shadows. It is generally true that for a pleasant, effective lighting it is better to show only one set of shadows. This fill-in light should be just strong enough to yield a desirable amount of shadow detail in the print, but not strong enough to cancel the effect of the modelling light.

If the two flash lamps are of equal size, the illumination from each can be controlled by placing the modelling light closer than the shadow light or by cutting down the brightness of shadow light by using a diffuser in front of the flash lamp, or, the intensity can be controlled by using lamps of different strength. However, because lamps of different manufacture have slight differences in their firing characteristics, use lamps of the same manufacture in each multiple-flash set-up, to be sure of consistent firing. Another method of reducing the intensity of fill-in is to remove the reflector.

Controlling Lighting Ratio. The aperture numbers on your lens form a convenient series of lamp-to-subject distances. Set the main light at one of these distances. Now set the fill light farther, so:

Lamp-to-subject Distance in feet	4	5.6	8	11	16	22
	Main light	Fill-in Light				
For a 2:1 ratio	↑	↑	↑	↑		
For a 3:1 ratio	↑		↑		↑	
For a 4:1 ratio	↑			↑		↑

Consider that the bracket for each ratio can move along the footage scale. For example, a 3:1 ratio with the main light at 8 feet puts the fill light between 11 and 16, or at 13 feet.

BASIC LIGHTING PLANS

Although certain lighting patterns have come to be known as basic lightings, there are really no rigid plans. There are basic plans published, however, which give you a starting point. Modification should be made to suit the subject and the mood of the picture. Serious photographers like to develop their own styles.

EXPOSURE

Generally satisfactory exposure is obtained if the regular exposure guide number for single flash is used, based on the modelling lamp-to-subject distance. The modelling light is considered the main light source. The shadow or fill-in light is the secondary light source. Its effect on the exposure is small and can generally be ignored. However, if the two lights are positioned more equidistant from the subject for a lower-than-

Pictures are more interesting when they tell a story.

Exposure is based on main light only, fill-in light is generally ignored.

usual lighting contrast, then better exposure results if you stop down a half a lens opening.

When two flash lamps are used together from the same position to get more light on the subject, do not multiply the single flash-guide number by 2, but by the square root of 2, or 1.4; for 3 lamps, multiply by 1.7; for 4 lamps, multiply by 2. This rule also applies when using a film of higher speed.

For practical purposes, those side lights used for edge or profile lighting and those used for back or background lighting can be ignored as far as exposure determination is concerned.

For elaborate multiple-flash lighting set-ups and where it is important to get the ultimate in exposure accuracy, there are methods which, though more involved, can be used for serious work. The pilot lighting method, described later, allows the photographer to study the lighting carefully and measure it with a light meter before the exposure.

Special Open-Flash Technique

In these days when most shutters have built-in flash contacts, we seldom think of open flash, that is, flash which is not synchronised automatically with the opening of the shutter blades.

Shutter Set at "B" or "T". In open flash, you act as the synchroniser by manually opening the shutter blades, flashing the lamp, and then closing the shutter. This results in an effective exposure time of 1/50 second when using G.E.C. No. 5 or FF. 25 lamps, and 1/200 second when using SM lamps. Because the shutter blades stay open for a comparatively long time, this method is not suitable for use with daylight or brightly lit interiors. If bright lights are included in the picture, the camera must be still during the exposure or the lights will register as blurs. The use of a tripod or other firm support is essential. The open-flash (1/25 or slower) guide number is used for exposure determination.

"Painting" with Light. To light the picture in certain situations, you can use with very good effect an adaptation of the old "painting with light" method. The existing light must be dim to avoid over-exposure of some parts of the picture because of the very long exposures required. Since both the camera and the scene must be still, a tripod or other firm support must be used. You can light large interiors and exterior night scenes this way, without long extension wires and elaborate equipment.

In this method, the shutter is kept open on "B" or "T" while you or an assistant walks around and flashes a lamp, with a simple non-synchronous flasher, where light is required. The exposure is determined in the usual manner for each flash, using the open-flash guide numbers. It is better to adjust the lamp-to-subject distance to get the same exposure than it is to change the lens opening for each flash. You may need an assistant either at the camera or to flash the lamps. Cap the lens between flashes to prevent unwanted light from registering. This is particularly important when headlights of night traffic might enter the picture area. Unless the lens is capped between flashes, the headlights will register as streaks of light. Incidentally, these streaks are sometimes very effective in the print. Whether to include them or not is a matter of individual preference. The cameraman should check to see that the lamp flasher is not in the picture (unless intentionally so), and signal to him when to flash the lamp.

Flash with Colour Film

The techniques* for better flash pictures in black-and-white apply also when using colour materials, except that for colour we have to determine exposures more accurately. If the transparencies are to be printed, it is generally advisable to keep to a low lighting ratio, say 3 to 1 for average subjects. Some photographers use a higher ratio and still get first-class, dramatic pictures, but it then takes skill to get consistently good results. The shadows should receive more light than for a visually satisfying lighting, so if a 4 to 1 lighting ratio *looks* best, photograph it at a lower ratio, say 3 to 1. The effect will then be more nearly as you saw it.

If accuracy of background hue is required, illuminate it separately. Dark materials, such as blue and green fabrics, require about 50 per cent more light than skin tones to make them photograph correctly in colour. Light-coloured materials require less light to reproduce as they originally appeared to our eyes.

In black-and-white photography, we are little concerned by the *colour* of the light. But in colour photography, the warmth (redness) or coldness (blueness) of the light is an important consideration. Colour films must be used with the type of light for which they are colour balanced; otherwise, the pictures will have a decided colour cast. The result will probably not be a pleasing picture.

The use of flash with colour film minimises this problem because, within reasonable limits, flash lamps of the same manufacture and type emit light of the same colour. So, once we have the correct film-lamp-filter (if required) combination, we can forget the colour of the light.

The colour of the light is also the reason we cannot mix daylight and the light from regular flash lamps. For daylight, we must use the blue, daylight-type flash lamps and daylight-type film. Although conversion filters are available to enable you to use daylight-type film with artificial light, it is better to use artificial-light film with flash indoors and daylight-type film with daylight. You gain in both speed and colour rendition. *Do not use blue flash lamps with Type A films.*

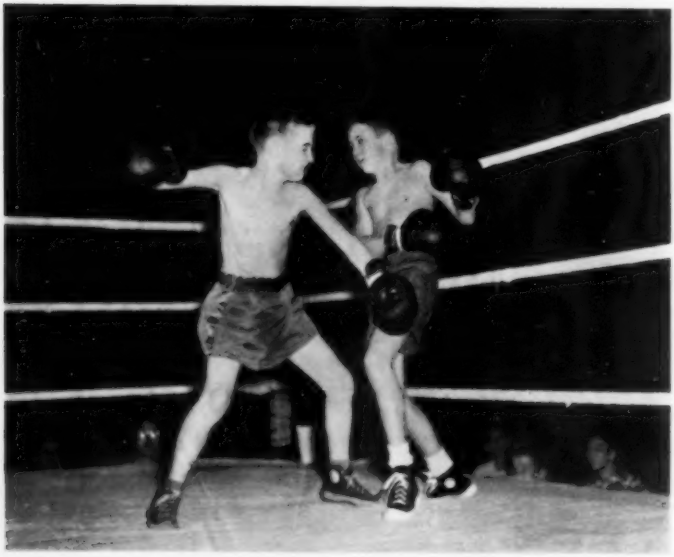
If the brightness range cannot be brought within the scope of the film, you must make a choice whether to get the best exposure of the lighter

*Certain special techniques, such as indirect and bare-bulb flash, are not suitable for use with colour film because the light reflected from coloured surroundings is similarly coloured and changes the appearance of the subject.

or darker parts of the picture. Films, such as Kodachrome, which yield positive colour transparencies, will show a greater saturation of colour if they are very slightly under-exposed and, conversely, will show weaker colours if over-exposed. Transparencies which are intended for printing should be made well within the latitude of the film and should have good detail in both shadows and highlights. As with black-and-white work, flash can often be used to throw more light into the darker portions of the picture.

Colours in the picture should be harmonious and in good taste. Suggestions on colour harmony and various aspects of basic colour theory are described and tips on their use are given in the Kodachrome Book.

Flash is the best way to picture indoor sports.



Exposure—How to Determine

Factors Affecting Exposure. Since the duration of the light from a flash lamp is so short and since the lamp flashes but once, there is no practical way for the photographer to measure the intensity of the light. So, we determine exposure by indirect methods, such as tables, calculators, and guide numbers which have been set up to take care of as many of the factors affecting exposure as is practicable. These factors are: film speed, type of flash lamp, lamp-to-subject distance, shutter time, synchronisation, lens opening, type of reflector, reflections from surroundings, and tone of subject (light or dark colour).

Lamp-to-Subject Distance and Inverse-Square Law. Why is this distance so important? Because the brightness of the light falling on the subject varies inversely as the square of the lamp-to-subject distance. This change in the brightness of the illumination is so great* that it accounts for most of the over-exposed and under-exposed pictures, and those you see with the foreground over-exposed and the background under-exposed.

Measure Lamp-to-Subject Distance. The lamp-to-subject distance can be estimated if you can judge distance fairly accurately. It is better to measure distance either with a tape or rangefinder, or by reading the distance on the focusing scale of a rangefinder or reflex camera after it has been focused. Remember it is the *lamp*-to-subject distance, not the *lens*-to-subject distance, which affects the exposure.

CONTROL EXPOSURE BY LENS OPENING

It is good practice to control the exposure by changing the lens opening rather than the shutter time. Different shutter times "catch" various amounts of light, but not in even proportions. For instance, although 1/50 second is four times as long as 1/200 second, only $2\frac{1}{2}$ times as much light is admitted. The shorter exposures, when properly synchronised, catch the most intense part of the flash, an important consideration in fill-in flash (see section on Flash and Daylight).

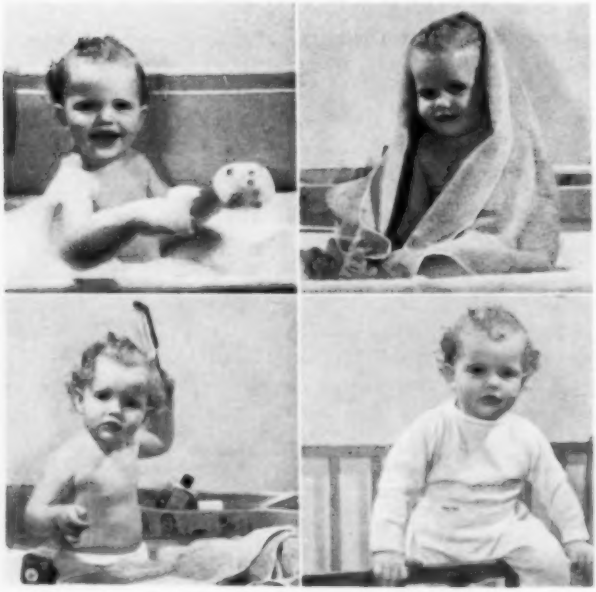
*You can demonstrate this for yourself by holding a flood lamp at, say, 3 feet from a wall and taking a light-meter reading. Now, move back until the lamp is 15 feet from the wall and take another reading. You will find that the second reading is 1/25 as bright as the first. Since the light varies inversely as the square of the lamp-to-subject distance, we get $3^2 : 15^2 = 9 : 225 = 1 : 25$. Any one portion of the wall is now getting only 1/25 as much light as it was before, so you can see how greatly the subject illumination changes as the light is moved to or away from the subject, and how important it is to get the distance right.

Allowance is made for this fact in the guide numbers. Conveniently, the same relationship exists between the subject illumination and lamp distance as exists between the image brightness and the lens opening, or *f*-number. Specifically, the subject illumination varies inversely as the square of the lamp-to-subject distance; the image brightness, as the square of the lens-opening number used.

Practically, this means that if we double the lamp-to-subject distance and halve the *f*-number (open up 2 lens openings), we get the same exposure. Or conversely, if we halve the lamp-to-subject distance and double the *f*-number (close down 2 lens openings), we also get the same exposure.

Flash-Exposure Guide Numbers are used for the quick determination of flash exposures. A number is assigned to each lamp-film-shutter speed combination used with specified equipment. These numbers are the product of the lens opening (*f*-number) and the lens-to-subject distance (in feet) which yields the best negative with the given combination.

Sequence pictures tell a story.



Film, reflector, and flash-lamp manufacturers publish guide numbers and exposure tables based on the characteristics of their products. The guide numbers are based on average conditions, that is, medium-coloured subjects in average-size rooms with medium-coloured walls. You go on from there, using the guide number or table for the film, shutter time, and flash bulb, and applying the lamp-to-subject distance. The resulting exposure may have to be modified because of the type of surroundings or subject matter, but the most important consideration is the lamp-to-subject distance.

To Use Flash Guide Numbers* With One Flash Lamp Near The Camera—Select the guide number for the film and shutter speed you are using and divide it by the lamp-to-subject distance. The result gives you the lens-opening setting. For example, the guide number for Kodak Super-XX Film, G.E.C. No. 5 or PF. 25 lamp in a 4 to 5-inch polished reflector, and a shutter speed of 1/25 second is 200. The subject is 10 feet away. Dividing 200 by 10, we get *f*/20, or, the nearest full lens opening, *f*/16, which will be satisfactory with black-and-white film. For colour, where more accuracy is required, set the lens between openings.

Modify Exposure for Light or Dark Subjects. Guide numbers are based on average conditions. With Kodachrome Film, use a half lens opening larger if the subjects are dark; light subjects call for half an opening less. Use a half lens opening less in small light-coloured rooms.

For Those "Once Only" Pictures—Bracket Your Exposures. For an important picture which you may not be able to take again, it is a good idea to take several pictures. Take one at the exposure you can best determine, then take another at one lens opening over and another at one lens opening under the original exposure. Change the exposure by half openings for Kodachrome Film.

*Flash-exposure guide numbers may have to be modified for use with individual equipment. See Your Own Guide Number in the section on Electronic Flash.

Electronic Flash

An electronic flash lamp is generally a glass tube filled with xenon gas. This tube is sometimes coiled into a helix to concentrate the light. Through this tube, a high-voltage electrical discharge is passed. The gases convert the electrical energy into radiant energy. Extremely high intensities are possible with this type of flash. The same tube can be used for many flashes—sometimes running into the many hundreds of thousands. In addition, the flashes are extremely short in duration, ranging from 1/500 to 1/1,000,000 of a second. The flash is close to instantaneous, taking place the moment electrical contacts are closed.

Since electronic flash, like any other artificial source of light, is subject to the inverse-square law, the techniques already described for improved flash pictures apply equally well here. However, some of the details and applications may differ. For instance, due to the initial cost of the units, it is likely that fewer units will be used in multiple-flash set-ups. For the same reason, there is a tendency to use more auxiliary lighting.

Electronic flash is ideal for fill-in light in sunshine.

WHAT ELECTRONIC FLASH HAS TO OFFER

1. It stops very fast action and freezes normal camera movement, resulting in very sharp pictures.
2. Each tube is good for about 10,000 or more flashes.
3. After the initial cost, operating costs are low.
4. It provides an adequate amount of light of a spectral quality approaching that of daylight.
5. Synchronisation is simple and positive. Because the flash duration is so extremely short, all of the flash is photographically effective.
6. If the equipment is in good working order and there is constant line voltage, the flashes are highly consistent with respect to duration, intensity, and colour temperature. Accuracy in these factors is particularly vital in colour work. Since exposure is controlled primarily by lens opening and subject-to-lamp distance, shutter time is eliminated as a variable.
7. It is excellent for portraiture. The quality of the light is especially suitable for portraits, the light is cool and pleasant for both subject and photographer, and the action-stopping ability of the flash makes it possible to catch any fleeting expression or action.

EQUIPMENT

There is a wide variety of electronic flash units on the market, ranging from the large, high-output studio units to the small, portable units used by many newspaper photographers.

Basically, an electronic flash unit consists of one or more condensers which are charged by a high-voltage supply. These condensers are discharged, by means of suitable triggering circuits or relays, through a tube usually filled with xenon gas. In the large high-output units, the power supply consists of a transformer which steps up the 240-volt alternating current to 2000 to 4000 volts. This high-voltage alternating current is changed to direct current by a suitable rectifier and applied to the condensers. In the lighter, more portable units, wet or dry batteries are used, in conjunction with a vibrator, transformer, and rectifier, to supply the necessary power. With the introduction of low-voltage flash tubes, the circuits have been simplified so that the units might well be compared to a B-C flash system. A high-voltage dry battery of 180 or 450 volts is connected directly to one or more condensers with a relatively high capacitance. By a suitable triggering circuit, the tube is made to fire either with an external synchroniser or by using the flash contacts built into the shutter.

WATT-SECOND RATING

The lumen output of an electronic flash tube depends upon several factors, such as the energy applied to the tube (measured in watt-seconds), the efficiency at which the tube operates (conversion of electrical to visible energy), the efficiency of the reflector, the distribution of the light from the reflector, and the number of tubes being fired from a single power unit. Many units are rated in terms of the watt-seconds applied to the tube, because the energy input is the most important factor in the lumen output. A much better rating system which would cover many of the variable factors previously mentioned would be the total lumen-seconds emitted. Such a rating is applied to conventional expendable flash bulbs.

Electronic flash "freezes" action.

From the watt-second formula* given in the footnote, it is readily seen that if the condensers are not charged to the rated voltage, either because of low voltage in the power supply or because the period between flashes was too short, the light output will be appreciably less than normal. Capacitor deterioration can also reduce light output. Also, if more than one tube is connected to the same power unit, the energy is divided among all the tubes, thus reducing the light output obtained from each individual one.

FLASH DURATION

The capacity of the condenser influences the length of the flash. Low-voltage units with a fairly high-capacity condenser may have a flash duration as long as 1/500 second. High-voltage units usually have a considerably shorter flash time.

USING ELECTRONIC FLASH

Checking the Synchronisation. Synchronisation can be checked visually by opening the camera back and operating the shutter with the flash connected and the lens wide open. Point the lens and the flash tube toward a plain, light surface and look at the back of the lens while operating the shutter. When shutter and flash are synchronised, a full circle of light can be seen. If a visible starlike pattern is produced by the shutter blades, adjust the synchronisation.

Exposure Guide Numbers for electronic flash units are generally given in the Manufacturer's instructions. These guide numbers are divided by the lamp-to-subject distance, in feet, to determine the lens opening (*f*-number) in the same way as for regular flash.

Remember that the watt-second rating of electronic flash equipment is not a complete indication of the subject illumination.

*The watt-second rating is governed by the voltage applied to the tube and the capacitance of the condenser. The following formula can be used to compute the watt-second rating of a unit if the voltage and capacitance in microfarads are known:

$$\text{Watt-seconds} = \frac{\text{Capacitance} \times (\text{voltage})^2}{2{,}000{,}000}$$

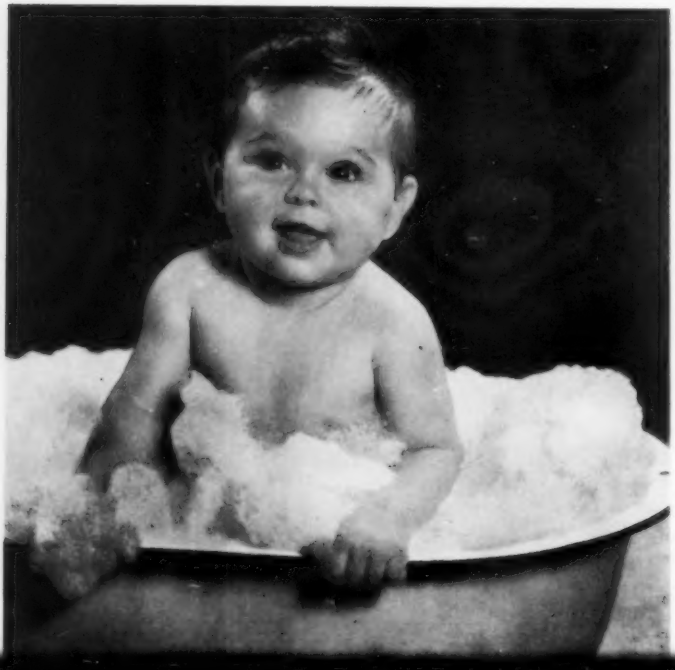
For example, a battery unit employing two 525-microfarad condensers and two 225-volt batteries would have a rating of:

$$\text{Watt-seconds} = \frac{2 \times 525 \times 450^2}{2{,}000{,}000} = \frac{1050 \times 202{,}500}{2{,}000{,}000} = 106$$

Your Own Guide Number. You can find your own guide number, that is, one which will be right for your particular set of conditions. Make a series of test exposures. Measure and record the lamp-to-subject distance. Start with an exposure derived from a published guide number, then increase and decrease the exposure by full lens openings for black-and-white material—by half openings for colour film. Include a record of the lens openings in the pictures. Develop black-and-white films exposed by high voltage electronic flash 50 per cent longer than normal, and select the negative or transparency which represents the exposure you prefer. Then multiply the lamp-to-subject distance by the *f*-number used for the best exposure. This is the guide number for that exposure. Repeat the test for several types of subjects at various distances. The resulting guide number is more accurate for your particular conditions than any published guide number.

Guide numbers for films other than the film used in the test can be found by substituting the values in the following equation: Guide number $= K\sqrt{\text{Exposure Index}}$. The value of the constant "K" is found by using the guide number determined by the test described above.

Example: If a lens opening of *f*/16 at 7 feet produces a correctly exposed negative (electronic-flash exposure index of film, 100), then the guide number is 7×16, or 112. Substituting the values now known in the above equation:



Flash photography captures fleeting expressions.

$$112 = K\sqrt{100} = K \times 10$$

$$K = \frac{112}{10} = 11 \text{ (rounded off)}$$

The value of the constant "K", in this case 11, is for your particular equipment, set of working conditions, and preference. It can be used in the above equation to find the guide number for any black-and-white film. Do not derive guide numbers for colour film from a test run with black-and-white film; use colour film for the original test.

Shutter Time. Since the duration of electronic flash is so extremely short, varying the shutter speed has no effect on the exposure. But where other strong light is present, especially sunlight, use a fast enough shutter speed to stop the action. This will avoid double or ghost images. On the other hand, if stopping action is not a problem, and if remote background detail is wanted, use a relatively long shutter time, say 1/25 second.

Extensions and Light Output. Using extension lights will not increase the total output unless additional power packs are also used. Two lights from one power pack will produce no more light than a single light from one power pack. In fact, unless the light from both lamps is superimposed on the subject, the aperture must be increased. The advantage of using more than one light is the greater flexibility of lighting control—just as in any method of lighting. Two power packs can be used to double the light from one tube, provided the total watt-second rating of the tube is not exceeded.

Human Reflex Lag varies from about 1/7 second to about 1/4 second. So, for very fast action, you will have to allow for your own lag and press the shutter just before the action reaches its climax or the subject reaches the proper location in the picture frame. Many of the ultra-high-speed shots you see published were made with units operating at extremely short exposures and with concealed electric contacts, microphones, photocells, or other tripping devices rigged so that the subject itself sets off the flash.

Recharging Time. As previously stated, firing the flash before the condensers have had time to fully recharge can result in under-exposure. Allow adequate time between shots; your instruction manual will specify the waiting period—usually a few seconds. Most units have an indicator lamp which lights when the capacitor is ready to fire.

Contrast. As with any lights, the highlight-to-shadow ratio (brightness range) can be controlled by light placement. Generally, however,

because of the reciprocity effect, negatives made at such short exposure times and processed normally will have a lower gamma than is generally desired. For more snap (a steeper gradient), then, it is general practice to develop the film 50 per cent longer.

Films. High-speed films which will develop to brilliant negatives are generally preferred. Such films are Kodak Super-XX Panchromatic and Kodak Royal Pan. If the light output is high enough to give adequate exposure at a practical lens opening with a slower film, slower films will yield brilliant negatives with finer grain.

Colour with Electronic Flash. Since daylight-type colour film is balanced for daylight, which electronic flash closely resembles, the electronic flash requires less correction to produce a satisfactory balance with this film than if colour film for tungsten or photographic flood lamps is used. For better colour rendition, then, use daylight-type colour film. Use a Kodak Light Balancing Filter No. 81C for Kodachrome Film, Daylight-Type. The filter will correct for the slight difference in the colour of daylight and the flash tube as well as the slight changes in the speed relationship of the three sensitive layers in the film resulting from the extremely short exposures.

Supplementary Light—Monochrome Film. Controlling the effect of supplementary light, such as tungsten, photographic flood, or daylight, is easy because it can be controlled by varying the shutter time, while the flash exposure remains the same because it is unaffected by the shutter setting. It works this way: set the lens opening for correct exposure for the flash only. Measure the supplementary light and figure the shutter time to get the correct exposure with the lens opening already set. For equal lighting from both sources of light, set the shutter on this speed. To cut the flash lighting in half to produce a 1 to 2 ratio, stop the lens down one lens opening and double the shutter time. To produce a 2 to 1 ratio, *i.e.*, to have the flash twice as strong as the auxiliary light, halve the normal shutter time and leave the lens opening set for normal flash exposure. You can manipulate lens openings and shutter speeds to get a variety of lighting constrasts. The shutter times should be short enough to stop action.

CAUTIONS

Take care of your unit. Follow the suggestions in your instruction manual. . . . When finished with a picture series, shut off the power and discharge the condensers by flashing the lamps before putting the equipment away.

. . . Respect the high voltages involved in electronic-flash circuits. Follow directions carefully when replacing parts and performing minor repairs. Better yet, let an experienced electronics repairman do the work.

. . . For accurate exposures, avoid the practice of converting expendable-flash guide numbers to electronic-flash guide numbers. Because of reciprocity effects the conversions can lead to poor exposures.

. . . Shut off modelling lights before making the actual exposure. Unless the shutter speeds are very high, double or ghost images can be formed on the negative, and the colour balance of colour film can be upset. If modelling lights are built into the unit, do not leave them on unnecessarily.

POWER SUPPLIES FOR ELECTRONIC FLASH

Power supplies for electronic flash units all contain certain basic elements. Since electronic flash tubes require a very high-voltage discharge, the unit must provide for this. So,whether the power source is 240-volt alternating current, or direct current supplied commercially or in the form of batteries, the power supply must multiply the voltage up to the level required by the flash tube being used. In some units, direct current is converted to pulsating direct current so that it can be transformed to high voltage. Then, the high-voltage alternating current must be rectified to reconvert it to direct current because only direct current can be stored in the condensers.

Another basic component is a bank of condensers to store the electrical energy until it is needed and then release it almost instantaneously. Actually, depending on the circuit, there may be either one condenser or a number of them. Circuits using direct current, either from batteries or lines, may use a group of condensers in parallel to store the current and provide for them to be fired in series. This is a means of multiplying the voltage without a transformer.

Because the intensity of the flash of an electric flash lamp depends upon how much current is discharged through the tube, proper performance of the power supply is important. A number of difficulties are common. All usually cause lower light output and, thus, underexposure. For instance, variations in the supply voltage may cause large differences in output since the light output varies with the square of the tube input voltage.

Condenser breakdown may be partial so that less power can be stored than is really needed. Partial failure of this type may not be obvious since the lamp may flash with the partial voltage even though its output may be considerably lower. Complete failure of one condenser in a bank of several may not be noticed, if it is not shorted.

How Flash Equipment Works

FLASH LAMPS

The light of flash lamps is produced by the rapid burning of metal wire, foil, or primer powder. The lamp is charged with oxygen to promote rapid and complete burning. The lamp flashes once only.

The metal of a foil- or wire-filled lamp, such as the G.E.C. No. 5 or PF. 25 is ignited in two steps. When the electric current flows through the lamp, a tiny wire filament is heated white hot and burns out. If the current through the lamp is strong enough, this burning-out takes about one millisecond* (1/1000 second). When the filament burns, it ignites the primer, a powder that is coated on the tips of the filament support wires. The furious burning of the primer then ignites the foil or wire, the burning of which produces most of the light. Class F lamps, such as the SM, contain no foil or wire except the filament. They produce light only by the burning of an extra-heavy charge of primer (easily seen on the filament support wires).

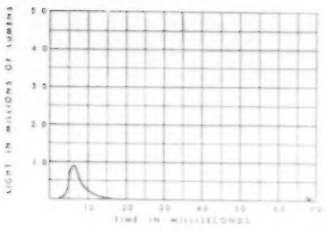
The light output of flash lamps is usually given in lumen-seconds. This is the product of the number of lumens produced times the number of milli-seconds the flash is sustained. Lamp manufacturers usually publish the total lumen-second output (open flash).

The principal classes of expendable flash lamps are F (fast-peak), M (medium-peak), S (slow-peak), and FP (focal-plane).

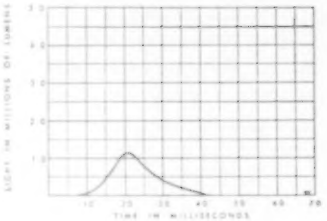
Class F Lamps (fast-peak), such as the SM lamps, usually reach the peak of their brilliance about 6 ms after current is applied. The useful part of the flash lasts in the neighbourhood of 1/200 second (5ms). Since the camera can only "see" the subject for that long, it is not necessary with this type of lamp to use short shutter times unless shorter than 1/200 second is needed. The lamp provides this action-stopping speed whether the shutter is set for 1/25 second, 1/10 second, or even open flash. The lumen-second output of current SM lamps is approximately 5,500.

Class M Lamps (medium-peak), such as the G.E.C. Nos. 3, 5 and 22, and the PF.-3, 14, 25, 38 and 60, flash more slowly than Class F. They peak in about 18 to 20 ms after current is applied. Class M lamps, if a strong electric current is used, may reach peak only 16 ms. after current is applied. If a very weak current—just strong enough to flash the lamp

*To save space, the abbreviation "ms" is used for the term "milli-second".



Class F Lamp SM.



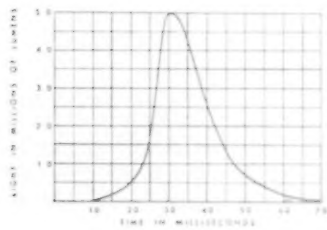
Class M Lamp
G.E.C. No. 5 or PF25.

—is applied, it may take 25 ms or more for Class M lamps to reach peak.

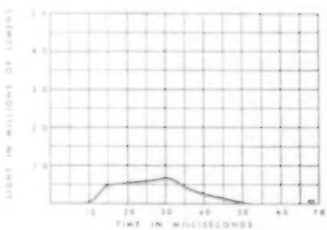
Midget M lamps such as the G.E.C. No. 3 and P.F. 3 have an output of 6,500 lumen-seconds and 5,500 lumen seconds respectively. Larger M lamps, such as the G.E.C. No. 5 and the P.F. 25, have a lumen-second output of 16,000 and 18,000 respectively, and lamps of the larger base type, such as the G.E.C. No. 22 and the PF. 60 have an output of approximately 60,000 lumen-seconds. Unfortunately, the more powerful lamps do not necessarily provide proportionately more light on the subject because the reflectors in which they are generally used are designed for smaller lamps and are not efficient for the larger lamps.

Class S Lamps (slow-peak), such as the PF. 100, are used primarily for open-flash work in the photographic studio. Their time to peak brilliance is about 30 ms after current is applied. They have a sharp peak and a very large output—roughly 95,000 lumen-seconds.

Class FP Lamps (focal-plane), such as the PF. 24 and PF. 45, were designed for use wtih cameras having focal-plane shutters. Because the focal-plane curtain moves across the negative during the exposure, taking



Class S Lamp
PF100.



Class FP Lamp
PF24 and PF45.

about 1/50 second (20 ms) to do so in the case of a small camera, the light of a focal-plane lamp must be given off at a fairly even rate throughout the whole of the time the shutter is moving. If the rate is not even, the exposure on one part of the negative will not be the same as on others. Consequently, focal-plane lamps rise to a plateau about 20 ms after the current is applied. They continue to give off light at this same level for either 20 (small lamps) or 40 ms (large lamps).

FLASH POWER SUPPLIES

The electric power used for firing flash lamps for synchronised flash must be of sufficient amperage and voltage to fire the lamp on time. For proper operation, the power delivered should not be less than 3 amperes *at the lamp*. How much voltage is needed to deliver this current depends on the resistance of the flash circuit. To overcome this resistance, a margin of excess power is needed at the power supply, and the higher the resistance, the more power is needed.

It is, therfore, important to reduce the resistance of the flash circuit. The bottom contact of a flash lamp is sometimes corroded by the action of oxygen or moisture on the metal. The practice of cleaning this contact with an emery board or some other clean, rough surface immediately before use often prevents flash failures.

A weak power supply may fire a lamp too late, or not at all. In the burning of a Class M flash lamp, for instance, once the filament burns out, the burning of the primer, as well as the aluminium wire, takes a very short, nearly constant time, whether the current applied has been large or small. The filament is a different matter. With enough current and voltage, it will burn out (as it is designed to do) in approximately 1 ms. But, if the current falls much below 3 amperes at the lamp, it may take 8 or 9 ms to burn through. With most cameras, such a delay at the faster shutter times makes synchronisation impossible.

Flashlight Type Batteries. To be safe, therefore, dry batteries for flashing Class S, M, F, or FP lamps should deliver a current of 5 amperes or more. Penlite cells deliver 3½ amperes or more. Two of these are usually used to get more voltage.

Unfortunately, however, flashlight cells vary greatly in their ability to deliver current. They grow weak with time, even if not used. Furthermore, even though the resistance of the flash circuit is low, the internal resistance of the battery itself may be high. It is important, therefore, that batteries be tested before pictures are made. The fact that when batteries become cold, their output is lower, may also cause flash failure

if batteries are borderline in strength, or if circuit resistance is high.

B-C Power Supply. These variations in battery performance need no longer plague the flash photographer. They have been overcome by the use of the battery-capacitor (B-C) power system. Here, one or two 22½-volt batteries provide 22½ or 45 volts to charge a capacitor (also called a condenser). The capacitor acts as a reservoir, collecting the current in a small trickle and saving it until required. When the circuit is completed the capacitor empties itself with a flood of current which overcomes almost any resistance likely to be found in the circuit. Even older, relatively weak batteries can successfully "fill" the capacitor, although they will take a few seconds longer. The batteries usually last a year or more. They will not fire flash lamps by themselves. Another advantage of B-C power is the added assurance that the lamps will fire on time. The extra strong punch of power delivered by the capacitor burns out the lamp filament in less than 1ms.

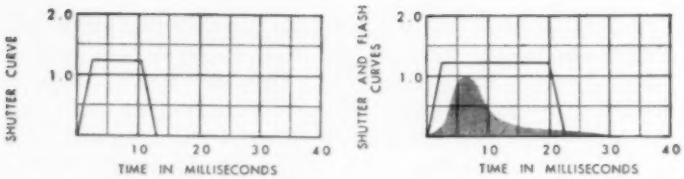
Multiple Flash. Adequate voltage and current are so essential in the case of the firing of one lamp that it is not surprising that in a multiple-flash hook-up the same is also true. Series wiring of flash units is important because, for good synchronisation, the same current and voltage must reach all the lamps simultaneously. Long extensions powered with ordinary flashlight batteries may require extra power in the form of a booster battery. When B-C power is used, however, additional power is not usually needed. If the unit is powered by an efficient B-C power supply, two or more series-wired extensions can be used, or a total of three or more lamps fired.

To find whether your flash units are series- or parallel-wired, connect one to the camera, and the second to the first flash unit. Then, put a lamp in only the second unit. If this lamp fires when the camera shutter is tripped, then the first unit is parallel-wired. In a multiple-flash circuit, one parallel-wired unit can be used as the last unit in a string of series-wired units.

Electronic-Flash Power Supplies are discussed in the section on Electronic Flash.

SYNCHRONISATION

In flash synchronisation, the object is to make the shutter open and the flash lamp reach the peak of its flash at the same time. The purpose is to have the camera "catch" as much of the light of the lamp as practical at that particular shutter speed. This means, of course, that the shutter must be wide open at the exact time that the lamp reaches its peak.



Efficient 1/100-second shutter action: Shutter open in about 2½ms.; is fully open about 8 ms.; closes in about 2½ms.; total action time 13 ms.; photographically effective time at mid-aperture, 10ms.

1/50-second shutter action, started at same time as Type F lamp, catches nearly all light.

Shutter Operation. To understand flash synchronisation, it is necessary to understand camera shutters. There are two principal types of camera shutters: between-the-lens, and focal-plane. Within these two major classifications there are minor variations. A shutter whose moving parts weighed nothing whatever could spring instantaneously to full aperture at the moment the shutter release was pressed, and close instantaneously the moment the desired shutter time had expired. Practically, this is not possible with either between-the-lens or focal-plane shutters.

The average between-the-lens shutter takes between 2½ and 4 ms to open fully, and about the same time to close. This means that, for a shutter speed of, say, 1/100 second, the blades are partially or fully open for a total time of about 12½ ms; they are fully open for about 8 ms of this time. However, at mid-aperture the *effective* shutter speed is still 1/100 second. See curve above.

Type F Synchronisation. If a camera shutter opens in about 3 ms, it is not difficult to synchronise such a shutter with the flash of the Class F flash lamp. The Class F lamp, as can be seen from the curves above, takes approximately 3 ms to begin to flash. It reaches the peak of its brilliance at about 5 to 6 ms, and fades out at about 11 ms. To have the flash of the lamp occur when the shutter is fully open, then, it is only necessary to close the electrical circuit for the lamp at the same time that the shutter release is pressed. This works with shutter settings of 1/100 second or longer; not for settings of 1/200 second or shorter. The illustration shows how the shutter curve and the lamp curves look for a 1/50-second shutter setting synchronised in this way.

If, however, a camera has a shutter that opens relatively slowly, let us say in 5 ms, a Class F lamp could not be started at the same time that the shutter was tripped. If it were, the lamp would reach its peak

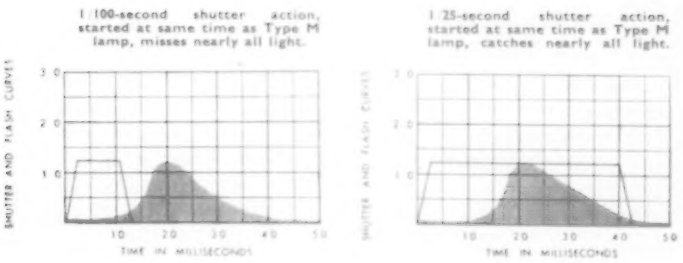
just as the shutter reached the fully open position, and the shutter would catch only the last half of the lamp's flash. For this reason, in cameras having the more slowly moving shutters, it is customary to have the electrical contact made a number of milli-seconds after the shutter has been started. Simple or box-type cameras may use either Type F or Type M synchronisation.

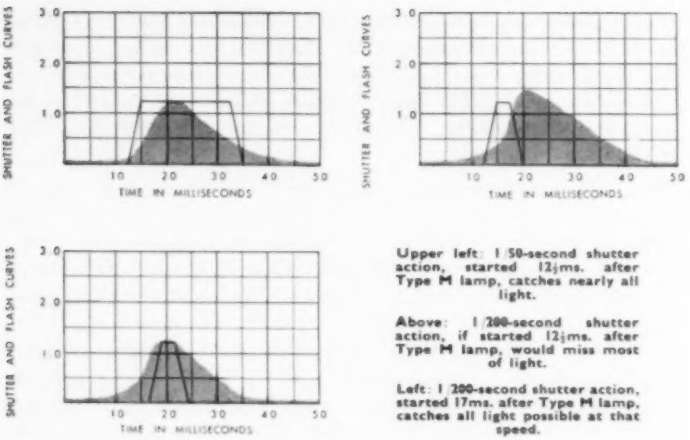
Type M Synchronisation. Likewise, when an M-type lamp is being used, the shutter and the lamp could not be started at the same time. If they were, and the shutter were set for one of the faster shutter speeds, such as 1/100 second, the camera shutter would open and close before the lamp could reach the peak of its brilliance. The graph for this is shown at left below. It should be pointed out, however, that if the shutter is set for a relatively slow speed, such at 1/25 second, the shutter will open in about 3 ms and then remain wide open for about 37 ms. Since the M-type lamp will flash at about 20 ms and fade out at about 30 ms, the whole of the lamp's flash will be caught at this shutter speed. This case is shown in the graph on the right.

But, what about synchronisation at the faster shutter speeds? To have the lamp flash occur while the shutter is open, with Type M lamps the electrical contact must be made first, and the opening of the shutter must be delayed until the lamp actually begins to flash. This delay of the shutter can be accomplished with either a mechanical or an electrical device.

Whether this delay mechanism is mechanical (gear-train, springs, etc.) or electrical (solenoid, etc.), it is possible and advantageous to have the delay adjustable. This is because the same delay time will not give ideal synchronisation for all shutter settings.

Suppose that the electrical contact is made at the moment the shutter release is pressed, but the shutter does not begin to open until 12½ ms have passed. The curve shows the synchronisation for shutter settings of





Upper left: 1/50-second shutter action, started 12½ms. after Type M lamp, catches nearly all light.

Above: 1/200-second shutter action, if started 12½ms. after Type M lamp, would miss most of light.

Left: 1/200-second shutter action, started 17ms. after Type M lamp, catches all light possible at that speed.

1/50 second (20ms) and 1/200 second (5 ms). It is obvious that the 12½ ms delay gives reasonably good synchronisation for 1/50 second, but does not for 1/200 second. With the latter, the shutter closes before the lamp reaches its peak. Much better synchronisation for the 1/200-second setting can be obtained with a delay of about 16 ms (see graph).

It is clear, then, that for very best synchronisation, the delay of the shutter must be set differently for each shutter time. Practically, however, it is not necessary to use a different delay for the slower, commonly used shutter settings. Relatively good synchronisation for these shutter settings with Class M lamps can be obtained by using a delay that gives optimum synchronisation for 1/200 second. In the interest of easier camera use, therefore, most manufacturers of multiple-speed flash cameras generally set the shutter delay for M-type lamp synchronisation for this shutter time.

Type X Synchronisation. If the lamp used is electronic, having a time-to-peak of much less than 1 ms, it is usual to delay the starting of the flash instead of the opening of the camera shutter. In fact, in cameras set for electronic or X synchronisation, it is customary to have the electrical contact made only when the shutter blades reach the fully open position. In this way, there is no possibility of losing any of the flash.

FP Synchronisation. A focal-plane shutter has a slit that travels across the film. The slit may be set to expose each point on the film

for 1/200 second, but the slit may take 1/50 second (or longer in a larger camera) to travel across the whole film area. The synchronisation problem involved is therefore somewhat different because the FP lamp needed must have an illumination plateau that lasts longer than the time the curtains take to cross the film. If this plateau is shorter, one or both edges of the negative will receive less exposure than the central portion.

As with Class M lamps, class FP lamps must be started first, and the opening of the shutter delayed till the lamp has reached (or nearly reached its plateau. Since the curtain travel time with most cameras is the same for all shutter settings, the time the shutter is delayed can be the same for all shutter settings. Just as it is important to have the lamps fire on time for synchronisation with between-the-lens shutters, it is important in synchronisation with focal-plane shutters. Too little power causes the lamp to flash late, and that means that one side of the picture will be under-exposed. With the curtain wide open (open flash, shutter set for 1/25 second and zero delay), cameras with focal-plane shutters can use any flash lamp, including electronic.

Kodak Flash Shutters and Electronic Flash. The Synchro Compur and Prontor SV Shutters used on the Kodak Retina Cameras have built-in contacts for electronic flash with no delay.

Shutter contacts may be damaged by using equipment which imposes on them a load of more than 25 volts at 15 amperes or any excessive load which is inductive. The manufacturer of the flash equipment should be consulted for information on the extent of the load imposed by the equipment.

Properly designed, small, portable electronic flash outfits equipped with "X" delay-triggering mechanisms will not harm the flash contacts of Kodak shutters.

GUIDE NUMBERS FOR PHOTO-FLASH

A guide number is a number given to a combination of certain emulsion, flash bulb and shutter speeds; and when divided by the flash-to-subject distance it gives the lens aperture required.

The following guide numbers are based on the use of shutter speeds of 1/25th second and slower.

EXAMPLE

Film	Kodak Super-XX Panchromatic
Photoflash bulb: G.E.C.22	Guide No. 300
Distance from flash to subject	10 feet
Shutter speed	1/25th second
Aperture to be used	$\frac{300}{10} = f/30$

Flash makes childhood sequence pictures a certainty.

These figures have been brought to approximate relative value and are based on photography in a room of average size; larger apertures being required for rooms of larger area or out-of-doors at night.

Owing to variables, such as reflector efficiency and amount of reflection from nearby walls, some further local adjustment to these guide numbers may be necessary after the results of the first exposures have been examined.

GUIDE NUMBERS FOR BLACK-AND-WHITE FILMS

FILM	FLASH LAMP			
	G.E.C. No. 3 PF.3	PF.14	G.E.C. No. 5 PF.25	G.E.C. No. 22 PF.60*
Kodak Royal Pan	160	200	280	400*
Kodak Super-XX	115	145	200	300*
Kodak Plus-X	80	100	140	220*
Kodak Verichrome	65	80	110	170*

Above figures are for 4" and 5" polished reflectors excepting G.E.C.22 and PF.60.
*6" or 7" polished reflector.

Note.—Guide numbers in respect of lamps designed for use with cameras equipped with focal plane shutters (such as PF.24 and PF.25) will be found in the technical recommendations as supplied by the lamp manufacturers.

GUIDE NUMBERS FOR KODACHROME FILMS

FILM	FLASH LAMP			
	G.E.C. No. 3 PF.3	PF.14	G.E.C. No. 5 PF.25	G.E.C. No. 22 PF.60***
Kodachrome : Daylight Type	—	—	45**	65**
Kodachrome : Type 'A'	45*	60*	80*	110*

Figures are for 4" or 5" polished reflectors excepting G.E.C.22 and PF.60.
*When using the Wratten 81C filter or yellow flash bulbs.
**When using blue flash bulbs.
***6" or 7" polished reflectors.

Telling the new picture-maker

(No. 29)

It's a Small World

When we use the word "photography", we usually refer to the science that enables us to have snapshots of the people, things, and places that are personally important to us. But take a look at some other aspects of photography and how it affects the way we live.

Without photography our lives would be different indeed.

Today, we know not only how all of the leaders in our country look but we would also recognize many of the people who play important roles in current history all the way around the world if we met them on the street. We know how our Queen looks in stately robes, and how she looks when she plays with her children on the palace lawn.

Whether we have ever been to London or not, we can close our eyes and visualize the Changing of the Palace Guard. The Empire State Building's famous tower is almost as familiar to people in Australia as it is to the native New Yorker.

When disaster strikes in any part of the world, we can see for ourselves what happened. When a new fashion trend is introduced in Paris, women in every city, village and farm in this country know by the next day what the newest style is.

Photography communicates all this information to us through the medium of newspapers, magazines, motion pictures and television.

Understanding the importance of pictures in general helps us to understand the importance of our own snapshots. With them we can keep various members of the family, although they be widely scattered, up to date on the happenings at our house. Through the exchange of personal snapshots we can watch children grow, see new homes being built, really keep up with the doings of our favourite friends. Anything that is worth remembering is worth a picture.

The New Camera

When you took that new camera out of the box there was an instruction book with it. This book tells you in detail how to operate your camera under varying circumstances. It is designed to help you make the best possible pictures. But of course it cannot do a thing for you if you neglect to read it carefully. Do that before you take your first pictures. Knowing how your camera operates and what its limitations are is a good way to avoid disappointment.

Since all new cameras are carefully inspected before packing, yours should work splendidly. However, if it is the exception to the rule and shows any inclination to stick, don't force it. Take it to your photo dealer, find out what is wrong and arrange for the proper remedy from someone who understands the mechanism involved.

These days cameras travel far and wide. Inevitably, they are going to suffer a certain number of bumps and shocks. On the whole they are rugged and will take an amazing amount of punishment. However, it seems foolish to risk damaging a camera when a carrying case will protect it.

When travelling by car, you face the unfortunate problem of the most convenient places for carrying the camera being the very places that are unsuited for it—the glove compartment and the back window ledge. In both spots you find heat and dust, the worst enemies of cameras and film. You do not want to pack it away in a suitcase. So, the best idea is to place the camera in a carrying case and keep it on the seat beside you—ready for picture taking at all times.

D. McDERMANT: Twins

(No. 30)

"Fantasia": Arthur M. Underwood, Hon. P.S.A., F.P.S.A., Rochester, N.Y., took a photo of a 3ft. x 5ft. area of crusted snow on the shore line of Lake Ontario, turned it upside-down and won a top award in the 19th Rochester International Salon of Photography, the world's largest photographic exhibition. The salon competition drew over 7,000 entries from all parts of the United States and 36 other countries.

SOUVENIR OF THE

19th ROCHESTER INTERNATIONAL SALON OF PHOTOGRAPHY

1955

Notes from the Magazines

READ AND MAKE BETTER PICTURES

By O. W. Marvin

American Photography

No energy expended by anyone interested in photography will produce better results or higher dividends than intelligent reading and study on the subject. Interests are diverse and the field is wide, but capable and well-informed writers have kept pace with the progress and developments as they have occurred.

The first book to study and memorise is the manual of the camera you are using. It probably contains the answer to every question that the beginner is likely to ask regarding the operation of the camera. Until one knows the capabilities and limitations of the instrument he is using, he is wandering in the dark. Next, one of the several inexpensive books on elementary photography should be studied and mastered. Such a book is indispensable for any one interested in photography. These books are simply and entertainingly written. They present the rudimentary facts concerning film emulsions, the problems of light, the use of filters and accessory lenses, interior photography with artificial lighting, how to make various kinds of portraits, how to take scenic views, how to choose a proper background and compose the principal subject of the picture, as well as many other of the more common problems. Such a book will become a handy reference book which will be referred to more frequently as one progresses. It should be read from cover to cover until one becomes entirely familiar with its contents, and then be more leisurely studied or referred to as the occasion arises. Do not skip what may be difficult to understand or may seem uninteresting. Bear in mind that you are laying the foundation upon which all other knowledge of the subject will be based.

If you desire to do developing and printing, the book on elementary photography will have laid a theoretical foundation. It is comparatively easy to do these things in a passably good manner with but a modest knowledge of the subject. One who simply snaps a picture and leaves the processing of the film and the making of the print to another misses one of the most interesting phases of the craft. Experience in developing film will teach much in relation to making the proper exposure and a thorough knowledge of these inter-related steps will enable one to become quite expert in getting a picture with each tripping of the shutter.

As one becomes more interested in photography, certain phases of the subject will evoke more interest and attention than others. One may like to make landscapes and marine views, while another may prefer to make photographs of interesting small items and yet another may confine his interest to portraiture or colour photography. Before any appreciable success can be attained with regularity and intent in any of the several branches or divisions of photography, a complete and thorough knowledge of fundamentals is essential. With a good foundation, books relating to the special branches of the subject may be easily and intelligently studied. There is hardly any branch of photography which has not been skillfully explained and properly handled by some acknowledged expert. Very often these books contain the results of many years of experience confined to but one phase of photography, and the reader is thereby enabled to start from a point at which, but for the book, it would be impossible for him ever to arrive.

One really interested in photography should read regularly one or more of the several monthly magazines devoted to photography in all its phases. By doing so, he is able to keep up with the new inventions and discoveries in addition to reading articles by experts devoted to some timely and important branch of the art. The magazines carry reproductions of the works of well-known photographers and of those pictures which, for one reason or another, are generally acclaimed unusually good. They should be studiously observed, as one may learn a great deal in composition and arrangement from the successful works of others. The adage that one picture is worth ten thousand words seems to apply with all its force in the study of composition.

The acquisition of knowledge is but learning what others who have gone before have discovered or invented. One book or an article upon a particular subject may represent the combined experience and deductions of many individuals, each more expert and proficient in a certain branch of photography than the reader ever expects to be. In reading a book or an article, it should be borne in mind that the benefit derived is in direct proportion to the amount of effort and understanding applied in reading it. The answers to most, if not all, the questions that are likely to confront and perplex a photographer, whether a beginner or an advanced amateur or professional, are contained in books. The information is readily available simply by reading.

What is here written applies to all persons interested in photography but with much greater force to persons in those smaller communities where camera clubs do not exist and but a comparatively few are interested in photography.

The writer makes no claims to being an expert photographer or to possessing any deep knowledge of the art or science of photography. He has read enough to realise that there is much to learn and that there are no short cuts, and that the safest and surest way to insure success in producing a picture worthy of the name is by study.

■

"PHOTOGRAPHY—QUO VADIS"?

By Karel Jan Hora, F.R.P.S.

(From "Light and Shade", by Pictorial Photographers of America, reprinted in "The Viewfinder", April, 1955.)

Our creator bestowed upon Man the ability to think and to express his thoughts. Further he gave him the desire and ability to create things of beauty. This creative impulse, which manifested itself in the primitive man lives in us unaffected by centuries of time. Present day painters work under its spell.

When photography was born, as a step-child of the graphic arts, it was found that, besides being able to produce, quickly, sharp images of people, it gave the possibility to create beautiful pictures. This was the beginning of pictorial photography, which, nursed by

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Review of May Portfolio

By KARRADJI

The portfolio topic, *By Harbour, Lake or River*, indeed offered ample possibilities for a wide choice of subject matter. Starting formally with J.F.A.'s *Vantage Point*, we find a print in which we readily feel the quiet of early morning. It is a nicely composed print in which the mooring post has been perfectly placed to give balance to the anchored yachts—it was needed close to the stepping-stone in order to allow them to recede to the back right, where they must ultimately disappear into the morning mist. Sufficient of the wharf has been included to act as a base of low tone which is helpful in stabilising the oversized, almost plain-toned, background.

A very pleasing print is K.M.'s *Calm Waters*. There is usually something very attractive about a sunset, but alas it is not always that the necessary accessories are to hand to make a picture as successfully as we see in this print, where the water, as it appears from the high viewpoint of the camera, is nicely offset by the brightly lit sky overhead. The base of the print has been carefully trimmed to make the most of this effect, and in allowing the foreground to run out of the picture at the left the photographer has decided upon a placing for the moored boats where they can take their correct place in the arrangement without any overcrowding of the base.

From the point of view of composition no fault can be found with J.McA.'s *Sunday Yarn*: the atmospheric effects also certainly fully convey the idea of the title, for an overall morning mood is well in evidence with the lightening clouds and the stillness of the waters.

J.F.A.'s *The Silver Lining* is one of those subjects which would probably make a perfect study in colour; but even in monochrome it is still an interesting arrangement. The almost 'untidy' foreground, by virtue of its lack of definition, is overlooked when the eye is drawn towards the distant sunshine by the careful placing of the three islands, as they are surrounded by sunlit waters and surmounted by a threatening body of clouds. Since the highlight on the sea completely dominates any light in the clouds I find it difficult to reconcile the title with what is to be seen in the picture.

A.K.D.'s 4.30 *a.m.* is a further proof of my contention that the subjects one encounters during an early morning walk more than repay the inconvenience of early rising. In this print I like the low angle from which the subject was taken. It allows the more distant boat to cut into the horizon and break that otherwise straight line at a point that helps considerably in the arrangement. The oily smoothness of the water offsets very well the turbulence of the heavily clouded sky.

M.P.'s *Lined up* is a nicely trimmed print—but quite apart from the trimming I cannot help feeling that the arrangement was very carefully planned in the viewfinder. I can imagine M.D. manoeuvring very carefully for this particular result, taking care that the small posts at the left were included at the position where they were most needed and making sure that the curve of the line of boats would enter the picture from a corner and depart again from the opposite corner at the top.

Quite a different rendering of a similar type of subject is seen in E.F.S.'s *Morning Mist* in which the main features of interest are the sharply defined boat in the foreground and the decorative shapes of the mooring ropes and their reflections—the latter effectively break up the narrow band of mid-tone on the right hand side of the print.

I must say that I feel that a better time of day could have been chosen for K.J.T.'s *Shades of Venice*, a time when the lighting would perhaps have more clearly defined the separate features of the arrangement and thus brought into more prominence the hanging branches of the tree and the mooring posts in the water. These items really require to be more dominant in order to give depth to the picture. The extra light on the background would also have helped out the formation at the top of the buildings which could be made quite interesting. On the other hand, the absence of tone in the sky suggests a hazy, late afternoon and the general impression of the print as it stands is one of an extremely restful mood.

A.E.B.'s *Sheltering Ground* is another print in which moored boats play an important part, though in this case the figures in the middle distance help the arrangement by breaking the long line of posts. I feel that the main claim to success of this print lies in all the long lines—the rows of piles and the line of boats both radiate from a point in the left-hand corner. The lighting also plays an important part, since the highlights on the piles relieve the solid mass and add liveliness to the subject.

G.A.D.'s *Ocean Entrance* is a print wherein the almost perfectly central placing of the main interest is quite permissible for it is relieved by the cloud masses overhead and by the well trodden track which leads in from the foot of the print. The way the wind has blown the interlaced branches to right and left is also helpful. The small figure in the distance is not of much assistance, but a suitably interesting figure could have been used with advantage nearer to the centre foreground.

I think an important point of interest in D.N.D.'s *Landfall* is the manner the oars are lifted irregularly from the water to give an impression of slow movement of the boat towards the front of the print. It is unfortunate in this subject that there are several white lines, apparently caused by pieces of dead grass, that lie across the darker upright tufts and stand out as unnecessary eye-catchers. Retouching would have been a simple matter, for the surrounding tones are more than helpful for this purpose. The exposure has allowed for an appreciative rendering of the still waters.

D.A.R.'s *Trio* is a subject which I saw at the time of judging and is one that I have always liked, though I feel it has lost something in reproduction. The definition of the original print is excellent and the tones are nicely distributed. The bright sunlight in the foreground, the broken landscape behing the boats and the attractive cloud mass combine to make this a good print for framing.

F.L.E.'s *Evening* is another arrangement, having a very attractive range of tones. In this instance I think I would have manoeuvred around with the idea of avoiding the tree at the left or at least removed the remaining upright dark post near the margin by a

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Review of Contest Entries

NUMBER OF ENTRIES (A/S 7, B/S 19, A/C 13, A/S 37.)	76
NUMBER OF COMPETITORS	37
NUMBER OF NEW COMPETITORS	3
NUMBER OF PRIZE AWARDS	18

NOTES: The attention of competitors is drawn to the necessity of always forwarding adequate return postage in respect of each group of entries.

The Contest Rules and List of Set Subjects last appeared on page 307 of the May, 1955 issue.

B.A.A., Scone.—In a set contest for silhouette pictures the award usually goes to the print which has been simplified as regards both subject matter and tonal range; your example is somewhat overcrowded with the tracery of tree-trunks and twigs, and at the same time falls upon the border line that divides low-key pictures from true silhouettes. Nevertheless the subject has about it an attractive air of mystery. We suggest that trims of ½" from the left and ¾" from the right would result in a more unified arrangement.

J.F.A., Sth. Camberwell.—*Sunny Corner* gained HC in recognition of a difficult technical problem well handled, with the result that both the shadows inside the porch and exterior sunlit garden are nicely rendered to make a picture having an attractive range of tones. The figure comprising the principal interest in the arrangement has been placed to best advantage.

M.A., Norfolk Island.—As a composition, your table top print embodies too much of even-toned grey in the base and a trim of 1" from the bottom would help to preserve a better balance. Otherwise you have entered into the spirit of the set subject theme very well and the effort under review is decidedly interesting, though perhaps not all that could be expected as regards technique. Associateship with a group of more experienced enthusiasts would be a great help. If you are interested in joining a club as an associate, write to the Secretary, The Cameramateurs, Box 28, P.O., Paddington, N.S.W. An alternative would be the Australian Portfolio Photographic Society.

J.W.A., Sydney.—Trimming to the shape of a narrow panel has not helped much with *Tranquility*; on close inspection you will find that there are now two separate pictures in the upper and lower halves of the arrangement. These two almost self-contained subjects tend to compete with one another for attention—unity is most desirable in any composition and simplicity should be the main objective. Mask off ½" from the left and 4" from the top and you will realise that the real charm of your picture lies in the immediate vicinity of the moored boat and very appropriately placed clump of rushes in the foreground.

R.S.C., Temora.—Your prizewinner in the set subject is an excellent silhouette study in which you have succeeded in conveying a good feeling of movement. We should be inclined to trim top, bottom and left-hand side.

J.F.C., Woollahra.—Your entry in the set subject gained HC because it is so well in keeping with the theme of a silhouette, though perhaps a little too much detail is to be seen in the statue. We would recommend that any future version be trimmed to remove 1¼" from the left-hand side, thus removing unwanted cloud detail and providing an unbroken dark base for the figure.

I.H.C., Hamilton.—There is a hint of fantasy in the skyline of your prizewinner in the set subject that makes it really unusual as a silhouette—but surely it would be better to reduce the area of heavy black at the base of the print by a trim of say 1½". *Light and Shadow* is a well-arranged study of a tree seen from an unusual angle. Here it seems to us that your efforts to preserve a certain depth of tone in the sky during printing have resulted in a flattening of highlights in the tree-trunk. It is better to rely upon a filter to provide sky tone at the time of taking. However, HC for a very attractive arrangement.

R.F.C., Sth. Hurstville.—*The Cane Cutter* gained a prize award in the open section because it possesses a strong documentary interest and the pictorial requirements of the subject have been satisfactorily attended to. The picture of the Collie dog has to our mind suffered too close a trim both at the top and foot of the print. We have noticed the most successful pictures of dogs are those in which the photographs have been confined to a comparatively close-up view of the whole of the head.

E.R.C., East Kew.—Congratulations upon gaining the major award in the open section with *Stark Ruin* a print that caused some discussion amongst the judges as to whether, on the one hand, it would be a better composition without the chimney piece (and the inclusion of more sky); or, on the other hand, whether it would not be more pleasing with the chimney included but the fragment of wall on the right-hand side removed. However, all were quite agreed that the print as it stands, remains a most striking result. Your technique has certainly improved.

E.G.C., McCrae.—Prize award for your silhouette print with the Banksia trees, in which there is a very fine display of light across the calm waters. Weakness here is due to the situation of the figure, with the woman's outstretched arm having the effect of exaggerating her already too central placing. If a viewpoint slightly to the right had been chosen, there should have been no reason at all for including such strong human interest. The placing of the figures is again at fault in the other print. Here they draw attention to the extreme left-hand lower corner of the picture. As the title of the print nominates the outstretched limb as the main interest, the human figures bring about an obvious distraction of attention.

E.B.C., Trundle.—Your bushland scene and the picture of the memorial gained HC for the novelty of approach in taking both subjects. We would like to have seen a little more space at the foot of the old gum tree; such massive subjects always appear happier if given a good solid base. The roadside scene with white letter box does not seem to have offered much in the way of possibilities; some form of human interest seems necessary in this instance and we would certainly have excluded the telephone pole. The remaining print (of the fire engines) is an effective record shot but not particularly exciting to our judges who, being city folk, are accustomed to such sights occuring every day.

J.D., Mildura.—Possibly the best print in this month's contest is your set subject prizewinner—a novelty theme very well handled and combining excellent pictorial arrangement with competent tech-

nique. This is a subject that must have called for considerable forethought in the planning of the layout. You are to be congratulated upon having carried through the idea to the last detail.

F.L.E., Narromine.—In your set subject entry the silhouette motif has been confined to a very small part of the picture which forms the actual centre of interest in the arrangement. The generally accepted idea in such pictures is for the silhouetted shapes to comprise practically the entire foreground interest. The landscape subject is an improvement over some of your previous contributions as regards pictorial arrangement and makes an attractive little scene. You might trim ½" from the right-hand side to remove the intrusive dark structure and a corresponding strip from the top to preserve the shape. A lack of sunny sparkle in the print is probably due to some shortcoming in your printing technique.

H.G.F., Hampton.—*Puppy Love* received HC award for its human interest appeal which is always a strong point in any picture. Weaknesses are the lack of depth of focus and rather heavy shadows, which allow the dog's head to merge into the dark side of the little girl's face; in consequence it takes some time for the viewer to realise what is happening.

J.F., Goulburn.—Of your three entries in the set subject we prefer the prizewinner because it holds together as a more satisfactory pictorial arrangement. On the other hand, if a critical attitude be adopted, the only print of the three that really qualifies as a fine silhouette is *Bedtime*. *Meditation* is practically in the category of low key, rather than silhouette.

K.A.F., Croydon Park.—Both of your entries in the set subject gained HC. We prefer the harbour scene for its attractive tonal range and general arrangement, but the remarks to J.F. above, regarding low key also apply in this case. Close trimming has somewhat overcrowded the youth on the surfboard in the other entry, but this print conforms more closely to the general idea of the set theme.

B.G., Coburg.—Two of your three entries gained HC and of these we prefer the seascape because it gives such a strong impression of mood. The other print is novel in conception but it is not very convincing: the skull, being obviously an anatomical specimen, seems to be somewhat out of its element. *Abandoned Wheel* is an ambitious attempt to produce something "with a difference"; the idea, however, does not inspire us to any great degree of admiration for the result.

L.G.H. Cannon Hill.,—Your single entry in the open section is hardly suitable for reproduction, since it involves too much advertising matter. As a still-life arrangement, however, the subject is nicely rendered and technical quality is adequate for this class of work.

W.H., Kingsgrove.—There is a general flatness in all four of your prints that indicates a definite deficiency in your printing technique. Your best course would be to avail yourself of the facilities of a camera club—the St. George Club is probably your nearest. *Home Cooking* is quite a good subject and should be worth entering in a set contest covering human activities—incidentally the verticals need correcting. The picture of the bridge with flood debris is of record interest only. *Swift River* is a more ambitious subject in which much of the attraction lies in the highlights on the water but poor print quality has robbed them of their value. In the remaining print the uninteresting area on the left could be dispensed with—trim away about 3" on that side, thereby emphasising the figures which are the real interest in the picture.

A.C.H., Healsville.—The absence of any real centre of interest is a fault in both of your current entries; in each case too much detail has been included in one particular area of the print. The horizon line is too centrally placed in the panoramic view; in the other print all the interest is confined to the left-hand side. A study of the prints appearing from time to time in the portfolios will help you to appreciate the disposition of subject matter for best effect in the picture space.

J.K.J., Killara.—Congratulations upon receiving two major awards in this month's contest. With regard to *The Nineteenth*, please see our remarks to L.G.H. above, concerning overmuch advertising. Technical quality and thoughtful arrangement have combined in this print to produce an outstanding technical result. In the set subject print our only complaint is that the picture contains too much of everything, and it is only the fact that the quality is so very impressive throughout that really makes the print acceptable in its present form. Actually the print contains two 'gems', each in its own way self-contained, one of these is situated in the lower left-hand region; the other is in the centre at the top of the print. The rowing boat at the right, with its two occupants, is surely extraneous.

E.L.K., Toowoomba.—Welcome to the contest and congratulations upon gaining HC with your interesting entry in the set subject, which shows that you have already acquired a considerable degree of technical skill. We shall look forward to seeing more of your work in future contests.

F.K., Fremantle.—Two prize awards and HC for your contributions this month is a worthy effort. Imaginative approach and good technique are the strong points of the two prizewinners. The remaining print is a good example of a human interest subject, but in the nature of documentary rather than pictorial. *Fantasy* is an unusual treatment which resulted in a thought provoking picture—somewhat too symmetrical, perhaps, from a pictorial point of view. Since the question arose as to whether the portrait print qualified as a silhouette in the generally accepted sense, this entry was transferred to the open section. Actually it is a study in low key.

B.J.K., Mildura.—The prizewinner in the set subject is the better of your two prints. In this case, however, the judges have been lenient; it is questionable if the subject would stand up to the complete blacking-out of detail necessary to produce a true silhouette. Airiness is the chief feature in your other print, so much so in fact that the human interest is somewhat dwarfed by her surroundings.

F.R.L., Riccarton.—Three of your four entries gained HC, and of these we prefer the set subject print which is an arrangement entirely in keeping with the set theme. A weakness here is the absence of a properly defined centre of interest; in the present print the strongest light in the sky is seen on the left, whereas this highlight is needed near the 'cut-away' in the right foreground, which is the most interesting part of this picture. Of the two documentary snapshots we prefer the one of the ladies because they more completely fill the picture space, although the truncated figures in the background are rather disturbing. The landscape is pleasing and well composed. Trims of 2" from the left and ½" from the bottom should result in a more compact arrangement.

A.R.L., Morningside.—Both of your entries gained HC for competent technique. In the church interior, interest is too scattered; it is better to concentrate the attention on one definite feature as a centre of appeal. Divided interest robs the other print of some merit, too. Try to keep figures closer together as a group, rather than widely separated and thereby competing with each other.

D.M., Morningside.—A trifle too dark is your prize-winner print in the open section. Nevertheless the textures have been very nicely rendered; the composition is pleasing and in accord with best table-top tradition. Technique is excellent.

T.M., Edmonton.—Your *Headland Gossip* gained a prize award in recognition of a very good example of "men at work". Interest in this print has been placed too much on one side; trims at left-hand side and foot of the picture would correct this fault.

R.N., Berala.—It is generally agreed these days that it is the plain white mount that does most for a print; coloured or otherwise embellished mounts have long gone out of favour. Both of your entries in this month's contest are inclined to be flat in the printing; it would be well worth your while to go more fully into the fine points of this aspect of technique. *Gothic* is an effective viewpoint for a picture of the bow of such a large ship, but here again we must remind you to watch the vertical lines—the uprights at the top of the picture will serve as a guide. *Water Race* is also a well-placed arrangement with the sweeping line of the race leading into the distance. Yet flatness on the print has robbed the picture of much interesting detail.

N.O., Cardiff.—Technical quality earned a prize award for your candid picture of the lads. Pictorially the arrangement is quite acceptable—even the electric power wires would not seem to be out of place. What is needed is some accessory interest to fill in the large rectangle of grey tone in the right-hand lower corner. Interest in your set subject entry has been disposed too near the margins—perhaps the print has been trimmed a trifle on the close side.

R.R., Moonee Ponds.—Congratulations upon gaining a prize award with your pelican close-up. The only fault we can find in this picture is the fact that there is a tendency for the bird to merge into the background of mottled water surface. A slightly more brilliant print might have helped the other subject; nevertheless it gained HC for its pictorial attractiveness.

R.W.S., Albury.—Your entry in the set subject might not be considered a silhouette in the strict sense of the word, but it does contain some strongly relieved interesting skyline material at the main point of interest; it gained HC because, suitably trimmed and printed a little darker, it could conform very closely to the general idea of the set theme.

V.S., St. Kilda.—Welcome to the contest. Your print shows that you have recognised the value of lines which lead the eye up into the main part of the picture. It is usual in such a case to place some object of human interest at the point where the lines converge. If you are anxious to advance in your hobby, we would advise you to see if you can join a camera club; several young enthusiasts of your own age are members of Sydney suburban clubs.

K.J.T., Scone.—HC has been awarded to your print of the tug boats which came very near to participating in the major awards; technical quality is fine in this print. The lakeside scene, on the other hand, is somewhat drab as a print, considering those strong dark shadows which indicate a sunny day. The small human figure is too far away to be of much help in the arrangement.

F.T., Mentone.—*Twisted Gum* earned HC for successful arrangement of subject matter and general interest in a typically Australian way. *Sunny Sea* is a bright little scene, but one that might have developed into a better composition had a more favourable viewpoint been selected. Interest in the foreground is too scattered; we would prefer to have concentrated upon a single group of figures. The stormy subject has mood and is attractive in its way. Some accessory interest is needed in the sea or on the beach to break the long horizon line on the left-hand side.

G.R.W., Port Moresby.—A prize has again rewarded your study of a New Guinea native. We must remind you, however, of our previous remarks regarding after-treatment of the print. It is far more satisfactory to make efficient use of light to model your subject at the time of taking.

I.H.W., Darling Point.—Since it was scarcely in keeping with the theme of silhouette and came more appropriately in the category of low key, your *Hand in Hand* was transferred to the open section where it gained a prize award. A pictorial weakness in this print is the central placing of the main interest. *Cross Wires* gained HC for originality in choice of subject, and is an interesting contribution to the set theme. The "burnt out" effect seen in some of the overhead wires was probably due to halation in the region where they superimposed upon the brilliant highlights of the clouds.

■

Notes from the Magazines

Continued from page 383

a few enthusiasts, grew and prospered during the past hundred years. It is our duty to care for it and improve it, to be able to proudly hand it over to future generations. We must protect it from bad influences; this duty is not simple. We live in an age of extreme pressure, hectic speed and fabulous scientific discoveries; we race ahead at increasing speed which affects even our lives. Science forces its way into graphic arts; simplification and abstraction becomes the motto of present day artists.

The forces which have already revolutionised the outlook of present day painters are trying to influence photography. At Saarbrucken, in Germany, an exhibition was held in 1950 in which works of *avant-gardists* of the so-called "subjective photography" were shown. Next danger signals came from the United States.

We must consider the future of photography in general and that of pictorialism in particular. Shall we follow the graphic arts on their perilous road away from life? Shall we discard the visible world and try to make pictures of phantoms or try to please the jury. Shall we throw away our modern equipment and using only box cameras aim at producing snaps of the type of which they approve?

Thank Heaven, there are barriers which limit the scope of photography to things which can be seen and felt, and these barriers will be strong enough to keep us in their enclosure. But, we need, and we want progress, and pictorial photography offers us an enormous field for research and experiment. It is not only our privilege but also our duty to make use of these possibilities and to strive at progress—but within the limits of reason. Masters of the graphic arts have left us a wonderful heritage, an enormous wealth of material, the study of which can guide our steps toward new vistas and higher perfection in pictorialism. Let us become well acquainted with it; let us work in new directions and on new ideas while keeping our minds sane and our feet on earth.

Editorial Notes

PRIZE LIST FOR JUNE

CLASS "A"—SET SUBJECT

First "Dawns Early Light", J. K. Jackson.
Second "Through the Honeysuckle", E. G. Cubbins
Third "Skyline", I. H. Caldwell.
Highly Commended: F. R. Lamb; K. J. Tester.

CLASS "B"—SET SUBJECT

First "Remember, Remember", J. Dickson.
Second "Late Toiler", R. S. Cooper.
(Equal) "Fantasy", F. Kos.
Third "Vanity", J. Forides.
(Equal) "Dance Design", B. Kozlowski.
Highly Commended: E. L. Kenning*; J. F. Cairns; I. H. Wilson.

CLASS "A"—OPEN SUBJECT

First "The Nineteenth", J. K. Jackson.
Second "Big Fisherman", R. Ritter.
Third "Still Life", D. McDermant.
(Equal) "Onlookers", N. Ozolins.
Highly Commended: I. H. Caldwell: J. F. Abson; E. G. Cubbins; F. R. Lamb (2); R. Ritter.

CLASS "B"—OPEN SUBJECT

First "Stark Ruin", E. R. Cornish.
Second "Native of N.G. Highlands", G. R. Warr
Third "Hand in Hand", I. H. Wilson.
(Equal) "Headland Gossip", T. Murray.
"The Cane Cutter", R. F. Corbett
"Madonna Modern", F. Kos.
Highly Commended: E. B. Curr (2); H. G. Fensham; K. A. Fox (2); B. Greed (2); L. C. Hall; F. Kos; A. S. R. Lindner (2); R. W. Short; F. Tuomy.

* *Denotes New Competitor*

WELCOME TO THREE NEW COMPETITORS

Our customary hearty welcome is extended to the following three new competitors: V.S. (St. Kilda, Vic.), J.F. (Goulburn, N.S.W.), E.L.R. (Toowoomba, Queensland).

Some exhibitions of exceptional interest to amateur photographers are scheduled to appear in the Kodak Galleries, Collins Street, Melbourne on the following dates:

25th July to August 6th

Inter-School Photographic Exhibition

First fortnight of September

The Golden Jubilee Exhibition of the late Walter Burke, F.R.P.S.

19th September to 1st October

Victorian Association of Photographic Societies Inter-Club Competition

• • •

If the photographer does not use his imagination, it is difficult for the beholder to use his own.

International Salons

Advance entry blanks have been received from the following:

Key to Code letters: A. Officially Approved; P. Pictorial; S. Scientific (including Medical, Technical, Nature, etc.) M. Monochrome Prints; m. Monochrome Lantern Slides; C. Colour prints; c. Miniature Colour Slides: C1. 3¼" x 3¼" Colour Slides; T. Large Colour Transparencies; F. Free entry for currency restricted areas; D1. 5/–, 1 dollar or international reply coupons to the same value.

Readers are warned that it is illegal to send stamps out of Australia in payment of entry fees.

8TH WITWATERSRAND INTERNATIONAL SALON OF PHOTOGRAPHY

A (P-S-M-c-D1)

Johannesburg Public Library, Johannesburg, South Africa. September 1955. Entries by July 31st. Details from Secretary Witwatersrand International Salon of Photography, P.O. Box 2285, Johannesburg, South Africa.

—

PRETORIA CENTENARY INTERNATIONAL SALON OF PHOTOGRAPHY

A (P-S-C-C-D1)

To be held in Pretoria's City Hall, November, 1955. Entries by 30th September, 1955. Details from Salon Secretary, Pretoria Centenary International Salon of Photography, P.O. Box, 1065, Pretoria, South Africa.

—

9TH ANNUAL INTERNATIONAL ZOO PHOTOGRAPHY CONTEST

A (S-M-C-c-c1-F)

Sponsored by the Nature Camera Club of Chicago and the Chicago Zoological Park Society at Brookfield, Illinois, U.S.A. Entries by 15th September, 1955. Accepted prints and slides to be in Exhibition at the Brookfield Zoo, from October 1st to 31st, 1955. Details from Salon Secretary, Administration Buildings, South Entrance to the Brookfield Zoo, Illinois, U.S.A.

(No entries will be received without blanks).

—

46TH LONDON SALON OF PHOTOGRAPHY INTERNATIONAL EXHIBITION

A (P-M-C-D1)

To be held at the Galleries of the Royal Society of Painters in Water Colours, 26-27 Conduit Street, London W1. From September 10th to October 8th, 1955. Details from The Hon. Secretary, London Salon of Photography, 26-27 Conduit Street, New Bond Street, London W1. England.

—

AN EXHIBITION FOR COLOUR PRINTS ONLY

The Camera Club Sixth International Colour Print Exhibition will be held at the Club, 23 Manchester Square, London, W.1., England, from Sunday, 30th October, 1955, to Sunday, 27th November, 1955, inclusive.

Entries close on Saturday, 1st October, 1955. Entry forms will be available from E. C. Codd, Hon. Secretary, The Colour Group. Entry fee: Five shillings Sterling, or one U.S. dollar or equivalent, which will be waived where currency restrictions prevent remittance.

Please note: Colour prints only, no transparencies.

The Photographic Societies

PHOTOGRAPHIC SOCIETY OF VICTORIA

Exceptionally fine colour transparencies of places of interest off the beaten track were viewed by an appreciative gathering at the Radio School Theatre on April 15 when Group-Capt. A. G. Pither, R.A.A.F., screened some of his views taken in Central Australia. These included scenes of Ayers Rock, Mt. Olga and Mt. Connor, with magnificent rendering of the strange formations and brilliant colouring. The screening and commentary were of interest both from the photographic standpoint and by reason of the accurate portrayal of places out of reach of the average club member.

On May 5, at the club room, 109 Flinders Lane, the President, Mr. J. H. McConkey, gave a most interesting and informative address under the title, *The Law and Photography*, in which he dealt with a number of matters concerned with the rights of photographers in relation to their subjects. A lively discussion at the conclusion of the address indicated the interest shown by members.

In the quarterly Colour Competition first place in the single slide section went to N. Kewish, and first for the set of four to Miss L. Grove. E.R.C.

WAVERLEY CAMERA CLUB

Mr. Paul Hennessy, well-known expert on flashlight photography, gave a talk on this subject on March 3. He brought with him a number of new types of electronic flash units which members were given the opportunity to handle.

April was a most successful month for the club, and the number and quality of prints on the wall for the monthly competition augurs well for our Second Annual Exhibition which will be held at the Waverley Community Centre, Grosvenor Street, Bondi Junction, on Monday, 20th June, at 7.45 p.m.

Mr. Cliff Noble, well-known personality in the photographic world, judged our open and *Luna Park* competitions on April 14. He gave an interesting and helpful criticism of the award-winning prints. The results were: *Luna Park Competition*—A Grade: 1, L. G. Clark; 2 and 3, H. Bergman; HC, J. Browne. B Grade: 1 and 3, A. Rosen; 2, N. Murdock; HC, F. Green. *Open*—A Grade: 1, W. Tannenzapf; 2 and 3, H. Bergman. B Grade: 1, A. Rosen; 2 and 3, N. Murdock; HC, C. Marchant. Congratulations to W. Tannenzapf and C. Marchant for gaining awards the first time they exhibited prints.

Our Library has been growing steadily thanks to contributions received, and is now a very popular feature. On April 28, examples were shown of photographs illustrating *Pattern and Texture*, the subject of our next competition.

The club is conducting a course in Elementary Photography on Tuesday nights at the Community Centre. It is hoped to make this an annual feature. The club meets on alternate Tuesdays at 8 p.m. Enquiries should be addressed to F. Green, 20 Wellington Street, Bondi. A.R.

SOUTHERN TASMANIAN PHOTOGRAPHIC SOCIETY

The meeting held in the Club Room, Liverpool Street, Hobart, on April 12, took the form of a *Problem Night*. Many questions were asked and answered on problems encountered in developing, mounting, etc. Mr. A. Walters described his method of mounting which gives very good results. He gives the backs of his prints two coats of shellac, and after allowing them to dry applies them to the mounts with a hot iron, exactly as is done with dry mounting tissue. Other members use rubber solution, which also gives good results.

The Autumn Outing was held on April 16, when members had a day in the Derwent Valley. The light was rather poor, but some good shots were obtained by the colour enthusiasts.

On April 26, the second competition for the year was held, the set subject being *Along the Water-front*. Under the new rules, there are no winners of each competition, points being awarded for prints "hung". A good proportion of prints were successful in both A and B grades. R.O.M.

MARRICKVILLE DISTRICT PHOTOGRAPHIC SOCIETY

At our meeting on April 13, Mr. A. H. Little gave the members a very interesting demonstration on *Toning the Print*. On April 22, the members spent a most enjoyable evening at one of Sydney's well known commercial studios.

The Competition for July is *Self Portrait*. If you are interested in photography and would like to learn how to develop, print, enlarge or colour your photographs, we will be pleased to teach you. The society meets on the second Wednesday and fourth Friday of each month in the Engineers Room of the Marrickville Town Hall. Visitors are always welcome. K.W.

Some of the members of Marrickville and District Photographic Society who were privileged to witness Mr. A. H. Little's demonstration of "Toning the Print" at the March meeting.

SOUTHERN SUBURBS PHOTOGRAPHIC SOCIETY (VIC.)

At the Annual General Meeting the following office-bearers were elected: *President*, P. C. Wright; *Vice-President*, A. S. Crouch; *Secretary*, G. J. Bourke; *Treasurer*, A. L. Crouch.

The year's activities commenced with a practical evening, during which Miss P. Gillespie acted as model. Good results are expected. On April 20, our old friend, Mr. F. P. Hion, gave a talk on his speciality *Table Top*. On May 4, Mr. John Brownlee spoke on *Nature* and illustrated his interesting address with some fine monochrome prints and a number of transparencies. We now look forward to some examples of our own members' activities in this absorbing field.

Meetings are held on alternate Wednesdays, at Bonds Reception Rooms, 301 Centre Road, Bentleigh, at 8 p.m. Visitors are always welcome. The Secretary is Mr. G. J. Bourke, 75 Mitchell Street, Bentleigh, S.E.14, Vic. G.J.O.

ADELAIDE CAMERA CLUB

The monthly competition produced 15 entries in A Grade and 7 in B Grade. Awards were made to Kwang Lim for *Landscape*, to R. Cann for *Neptune's Ring*, to D. Dansie for *Brian*, and A. V. Potts for *Curiosity*.

The President, Mr. Harry Stratman, announced the winner of the *Phillips Trophy* for Pure Photography in Landscape: George Ziesing's *Smiling Countryside*. The critics were K. McCarthy and L. Rhodes. G.Z.

WESTERN AUSTRALIAN CAMERA CLUB INC.

The club met at the Rural Bank's Social Room on April 28. The subject for the month was *Girl Study* (not child), which proved to be one of the most popular subjects of the year. The results were—*Open*: 1 (Equal), E. Roche and N. Helliar; 2, D. Jukes; 3, Mrs. Smethurst. B Section: 1 and 2, Mrs. Smethurst; 3, T. A. Marsden. Member D. Jukes gave a very interesting and informative talk on *Faults which occur in Processing*, which was enjoyed by all.

A notable event will be the club's Exhibition to be shown at the Kodak Gallery, commencing June 27. A.M.P.

NORTHERN TASMANIAN CAMERA CLUB

A Field Day was held at Mt. Barrow on April 3. Members had a most enjoyable time and a good entry for the competition is expected. April 12 was a Social Night, and the guest speaker was Mrs. H. J. De Jong, who described her trip home to Holland and illustrated her talk with a beautiful collection of Kodachrome slides.

The meeting on April 26 was Inter-club Night when a group from the Devonport C.C. made the trip to Launceston. We were fortunate in having on view a collection of salon prints from the U.S.A., which were shown by courtesy of the V.A.P.S. A number of colour slides were shown by our visitors and our own members. During the evening the forthcoming joint field week-end to be held during October in the Mole Creek district was discussed. J.W.I.

Review of May Portfolio

Continued from page 384

slightly closer trim on that side. It was a wise move to make the boats in the foreground heavier in tone, for thereby they form a solid base for the rest of the subject. I like the hazy impression of sunshine that extends even into the obscurity of the distant hillside.

In E.F.S.'s *Harbour Reflections* is a case where the inclusion of figures has greatly heightened the interest of the arrangement. However the rectangular mass at the top left is far too severe to serve any useful purpose as a foil for the large boats in the foreground, while of the latter the large craft at the foot of the print is too uninteresting to justify such a prominent position in the arrangement. At the same time the white object in the bottom of boat serves as a distracting eye-catcher and this portion, at least, of the print could have been trimmed away.

It was a mistake, I believe, in S.G.A.'s *Tranquil Waters* to have included in the print so small a portion of the tree trunk at the right; the downward hang of the branches should have been quite enough to frame the nicely shaped and highlit bridge. Exclusion of the tree trunk would also have removed the unnecessary black curved shape at the bottom right, even if some of the ground at the base of the print had been included, leaving less at the top above the bridge. Apart from these remarks I feel that the result is quite pleasing and it is obvious that the exposure has been very well handled.

R.M.K.'s *Catching Sunshine* is successful because everything fell very much in accord with the photographer's wishes—a perfectly arranged background, the concrete pipe leading downward to the boys fishing, and the general sunny atmosphere. But I must acknowledge here the ability of the photographer to take advantage of the moment when the figures were apparently quite unconscious of his presence. Although midday is seldom looked upon as an acceptable time for photographing because of the shortening of shadows at that period of the day it must be granted that in this print the lighting could hardly have been bettered.

An attempt has been made by A.J.A. to produce something really different in his *The Last Haul* by using the glass float as the centre of interest. But it seems to me that one point disturbs—that is the so-obvious placing of the shell which, because of its clarity of definition tends to prevent the eye from appreciating the ingenious composition of the subject as a whole.

J.E.T.'s *Evening Reflections* makes an excellent cover print, the picture having been taken from an angle that brings out the strong points of the subject needed for this purpose. As a matter of personal taste, I would prefer to see the very brilliant highlights on the water toned down somewhat so that they would not dominate the light that occasioned them.

I have noticed lately in almost every copy of *The A.P.-R.* that there is a still further increase in the number of clubs and societies—and likewise that there is also a continual increase in the number of *A.P.-R.* contributors who have met with success at their club meetings. It seems to me that congratulations all around are in order.

The 'Last Page'

The Journal of the Society of Motion Picture and Television Engineers for January 1955 contains a comprehensive twenty-page article (E.K. Co. Communication No. 1668) by J. I. Crabtree on the history of The Motion Picture Laboratory, which he believes to date from August 1889 when George Eastman forwarded a supply of motion picture film to the laboratory of Thomas A. Edison. Illustrated but not discussed is the Lumiere camera (1895) as used by Maurice Sestier, A. J. Perier and others in Australia, dating from September 1896.

* * *

The N.S.W. autumn shows were whole-heartedly supported by the Australian pictorial fraternity, with entries coming along from points as far away as Port Moresby. The record number of prints was that received by Orange, these amounting to over 240, of which 170 were accepted for hanging.

* * *

Friends of Raymond Ferris, assistant to Verdun Gadsby at the Snowy Mountains H-E Authority (Cooma, N.S.W.), were distressed to learn of the serious accident which befell him during the course of his photographic duties. It was good to learn that he is now out of hospital.

* * *

THE BRITISH JOURNAL PHOTOGRAPHIC ALMANAC 1955

The current number represents the ninety-sixth year of publication of the *B.J. Almanac*, the generally recognised authority on photographic progress and compendium of related arts and processes. Articles in the present edition include an important editorial, *Scientific Research in Photography*, a concise account of latest advances; also *Recent Advances in Photography*, by H. Baines, D.Sc., F.R.I.C., F.I.B.P., Hon. F.R.P.S., and four contributions in the fields of architectural photography, apparatus-construction, electronic flash, and colour processing. Over 100 pages of the journal are devoted to reviews of new apparatus and materials. A valuable feature of the Formulae section is an up-to-date list of sensitive materials and a set of tables for BS/ASA Exposure Ratings of both still and cine monochrome and colour materials. The sections on colour technique and electronic flash have been revised and enlarged. Other features include a glossary of technical terms, a list of chemicals in use in photography and a guide to photographic text books. The price of the 1955 *British Journal Photographic Almanac* will be approximately that of previous years. Price 9/6 (paper), 14/- (cloth).

* * *

It has just been brought to our notice that the 'Vic Johnston footnote', which commenced on page 336 of *The A.P.-R.* for June 1951 was penned by Olaf Ruhen. Our anonymous contributor of four years back is today well-known for his informative and thoughtfully-written historical sketches appearing in *The S.M.Herald* literary supplement each Saturday.

* * *

A preview of Melbourne Camera Club's big three-day *Camera Club Invitation Exhibition* received a double-spread feature in *Pix* for May 28th. Pictorialists featured were Ted 'Rocke' (Roche?), L. Friend, I. O. Goldsmith, and M. H. Hunter.

"A.P." ANNUAL OVERSEAS COMPETITION

These were judged by the "A.P.'s." Art Editor, who reported as follows:—

"As usual, the Overseas Competition produced a very large entry from all corners of the Empire and Commonwealth. This is a competition which gives us great pleasure because the overall standard is always extraordinarily high and there are very few prints which do not come up to first-class exhibition standard. In most exhibitions one can safely reject at least 50 per cent on the first run through, but in this year's competition the first "C" pile was less than 20 per cent.

"At one time the entry was dominated by the pictorialists from South Africa and Australia, but in recent years the entry from the Far East has increased in numbers and improved in quality. Hong Kong, Malaya and India are very strongly represented and have captured many of the awards. Indeed, one can say that this year, for the first time, they are predominant, and it is pleasing to note the enormous improvement in technique which has taken place. For some years the Indians and Pakistanis in particular had a tendency to overprint. The subject-matter was always vital and dynamic, but the prints were dirty and lacking in photographic quality. This year, however, the standard of print quality is high and this has emphasised their greater originality in subject-matter.

"Among the hundred prints selected for showing at the Camera Club there are prints from every country that has entered, and it is an exhibition of more than usual interest because it provides a unique opportunity to study the different pictorial approaches adopted in various parts of the world—methods which are to some extent reflections of national characteristics and environment. For instance, the South African work is largely composed of serene and beautiful landscapes in traditional treatment, and even the portraits are dignified and composed. Australia follows the same lines and also provides a number of 'glamour' portraits, but the Malayan work is full of dynamic genre pictures in a more modern idiom. The Indians and Pakistanis are more interested in people as personalities and have entered some powerful character-studies, but the Chinese use people as vehicles for expressing emotions or ideas. There are, of course, individual exceptions, but in no other show is one able to compare national trends so readily, and it is easy to detect the origin of nearly every print without reference to the catalogue.

"We were disappointed that no club entry was received from the Johannesburg society, who have so often won the plaque for the best club entry. This year the plaque goes to the Pretoria Photographic Society".

The only Australian entrants successful in gaining awards were all members of the Melbourne Camera Club which apparently once again submitted a club entry. All were Certificates of Merit:

All Mod Cons, L. P. Mullumby;
Windy Ridge, N. B. Crouch;
Remnants, John Bilney;
The Jackeroo, J. R. Hopkins.

K.B.

* * *

Maitland (Hunter River A. and H. Society) is planning to hold a special show in the Spring and on that occasion would very much like to be able to place on display a representative pictorial photographic exhibition. While we feel that it would be impracticable to reconstruct the whole of last February's magnificent collection, we do consider that it would be a pleasant gesture if the *award winners* would be agreeable again to make their prints available. For the balance, we are considering approaching local clubs (through the N.S.W. P.C.) for small loan collections. Correspondence would be welcomed.

Six-20 BROWNIE MODEL 'D' CAMERA

Second in the famous Box Brownie family—the ideal choice for simplified, sure-fire picture making based on Kodak quality of manufacture.

1. **Has built-in flash contacts to accept Kodak Flasholder.**
2. **Assures sharp focus for either distant views or close-ups at 3 feet—thanks to handy built-in portrait lens.**
3. **Tested Meniscus lens, recessed for protection and to minimise lens flare, gives crisp, bright pictures.**
4. **Dependable rotary shutter has snapshot and "bulb" actions.**
5. **Two large brilliant viewfinders simplify viewing of all subjects.**
6. **Modern push-button shutter release reduces possibility of camera movement.**
7. **Robust all-metal body; black grained leatherette covering.**

Loads with Kodak V620 film for 8 pictures, 2¼ by 3¼ ins. **£2/9/6**

FLEXARET Model IIIB

The reflex with "expert" capabilities — will get the pictures you want easily and quickly, without doubts and without guesswork.

1. **First choice in the miniature reflex field . . . popular choice amongst advanced workers. That speaks for itself.**

2. **Sharp-cutting Meopta Mirar 80mm. f/3·5 coated lens for clear definition and fine tonal separation.**

3. **Synchro. Prontor-S shutter with built-in flash contacts — eight speeds from 1 sec. to 1/300 sec., with provision for B. T. and delayed-action shots. Automatic film winding for rapid exposures.**

4. **Magnifying lens ensures critical focusing — from 3½ft. to infinity.**

5. **Direct-vision viewfinder set inside adjustable hood.**

6. **Strong light-weight alloy body; black leatherette and chromium finish.**

7. **With strong leather always-ready carrying case for comfort and protection.**

Revised Price:

£39/7/6

From Kodak Dealers Everywhere

Loads with Kodak V120 film for 12 pictures, 2¼ by 2¼ ins.

SALE OF USED APPARATUS AND LENSES

KODAK STORE, 386 George Street, Sydney

CAMERAS

2740—Verascope Model F40 Stereo Camera, size 24 x 36mm., twin Som-Berthiot f/3.5 lenses, 8-speed shutter, coupled rangefinder, **£150**

4433—Ensign Commando, 2¼" x 2¼", Ensar f/3.5 lens, 8-speed shutter, coupled rangefinder. Price **£24**

4451—Contax Model III, 24 x 36mm., 5cm. Sonnar f/2 lens, focal-plane shutter, 13.4cm. Sonnar f/4 telephoto lens, lens hood, extra tubes, adapter, Contax G copier and magnifier, Vidom universal finder, always-ready case, **£200**

4469—Flexaret II, 2¼" x 2¼", Mirar f/4.5 coated lens, 8-speed shutter, always-ready case, **£22/10/–**

4541—Reflex Korelle, 2¼" x 2¼", 7.5cm. Radionar f/3.5 lens, always-ready case **£37**

4591—Kodak Reflex, 2¼" x 2¼", K.A. f/3.5 lens, 5-speed Flash Kodamatic shutter, always-ready case **£30**

4760—Flexaret 11B, 2¼" x 2¼", Mirar f/3.5 lens, Compur-Rapid shutter **£20**

4731—Leica IIIC, 24 x 36mm., Summitar f/2 lens, 150mm. Kilar f/3.5 coated lens in Kilfitt reflex housing, always-ready case **£195**

4544—Graflex Super "D", 3¼" x 4¼", 52mm. f/4.5 lens with automatic diaphragm, Graflex flash gun, Graflex 3¼" x 4¼" sheet film magazine, 5 D/D slides **£140**

4899—Contax II, 24 x 36mm., Sonnar f/2 lens, focal plane shutter, always-ready case .. **£62/10/–**

4940—Contax II, 24 x 36mm., Sonnar f/2 lens, plate-holder back, six plate holders, 4-ext. tripod, accessory bag, always-ready case, **£82/10/–**

4910—Kodak Medalist, 2½" x 3½", Ektar f/3.5 lens, 8-speed shutter, always-ready case .. **£60**

4992—Six-20 Kodak "B", 2½" x 3½", K.S. f/6.3 lens, 3-speed shutter **£9**

4993—Six-20 Folding Brownie, K.A. f/6.3 lens, 2-speed shutter **£6/15/–**

CINE

4939—Eumig P11 Projector, 16mm,, resistance, 115v., 500w. lamp, extension arms, leads, **£60**

4930—Kodascope "C", 16mm., 115v., 100w. lamp, 4" projector lens, transformer .. **£13/10/–**

4961—Cine Kodak Royal, 16mm. (magazine camera), Ektar f/1.9 lens, set of four filters .. **£67**

4999—Eumig 8mm. Cine Camera, Xenoplan f/1.9 lens, built-in exposure meter, Eumatro 2x telephoto lens, case **£45**

SUNDRIES

4745—National Electronic 100A Speed Flash, extension pack, gun **£35**

4787—Wray Optical Universal Finder **£12**

4803—A.V.O. Exposure Meter, case **£6**

4832—Palec G-100 Speed-flash **£28**

4854—Hunter 2" x 2" Film Strip Projector, 100w., 240v. lamp **£13/10/–**

4864—Dallon 3¼" x 4¼" Sheet Film Developing Tank. Price **£8**

200—Pelcomat 2½" x 3½" Automatic-focus Enlarger (no lens) **£52/10/–**

4888—Photo Lab. Index, 9th Edition, by Henry M. Lester **£6/15/–**

4879—Enlarger, 24 x 36mm., condenser, leads, Contax lens attachment **£10/15/–**

4872—12" Ross Xpres f/4.5 Lens **£12**

4873—12cm. Meyer Gorlitz f/9 Lens, adjustable flange **£8**

4924—Braun Hobby Speed-flash .. **£27/10/–**

4941—Walz Flash Gun, 1-cell extension, flash lead, mounting bracket **£6/15/–**

4944—Rondinax Developing Tank, 24 x 36mm. Price **£6/15/–**

4950—13.5cm. Zeiss Triotar f/4 Telephoto Lens, in case, for Contax **£36/10/–**

4978—Aldis 2" x 2" Slide and Strip Projector, 115v., 500w. lamp, blower-cooled, 100mm. Aldis f/3.2 lens **£45/15/–**

4982—203mm. Ektar f/7.7 lens in Epsilon shutter, **£16**

2101—Ultrablitz Expert 1A Speed-flash, lead, **£27/10/–**

2102—Rolleiflex Plate Back, 3 plate holders, G.G. focusing screen, case **£16**

4894—Leisegang 3¼" x 3¼" Epidiascope, 240v., 500w. lamp, leads, slide carrier .. **£31/10/–**

KODAK STORE, 37 Rundle Street, Adelaide

CAMERAS

1050—Ensign Commando, Ensar f/3.5 lens, coupled rangefinder **£22/10/–**

31—Flexaret IIIB, Mirar f/3.5 lens, Prontor-S shutter **£28**

35—Ensign Autorange, Ensar f/3.5 lens, coupled rangefinder **£20**

CINE

26—Emel De Luxe, 8mm., Cinor B f/1.9 lens, Cinor B f/2.3 telephoto lens, Cinor f/3.5 lens, leather case **£100**

SALE OF USED APPARATUS AND LENSES

KODAK STORE, 250 Queen Street, Brisbane

CAMERAS

4003—Kodak Pony 135, 24 x 36mm., Anaston *f*/4.5 lens, Flash-200 shutter **£16**

3001—Ikoflex, 2¼" x 2¼", Tessar *f*/3.5 lens, Synchro-Compur shutter, always-ready case .. **£43**

2007—Six-20 Kodak "A", 2¼" x 3¼", Anastar *f*/6.3 lens, 2-speed shutter, leather case .. **£8**

3015—Retina IIA, 24 x 36mm., Xenon *f*/2 lens, Synchro-Compur shutter, coupled rangefinder, yellow, green and blue filters, always-ready case **£40**

4010—Rolleiflex, 2¼" x 2¼", Tessar *f*/3.5 lens, Synchro-Compur shutter, lens hood, yellow filter, always-ready case **£73**

3003—Leica IIIC, 24 x 36mm., Summitar *f*/2 lens, Leitz universal viewfinder, folding lens hood, yellow filter, cable release, always-ready case, **£110**

3010—Graflex, 3¼" x 4¼", K.A. *f*/4.5 lens, 2 D/D slides, adapter ring, green filter **£16**

2043—Futura, 24 x 36mm., Xenar *f*/2.8 lens, Compur-Rapid shutter, coupled rangefinder, lens hood, always-ready case **£35**

4008—Zeiss Ikon, 2¼" x 1⅝", Tessar *f*/3.5 lens, Compur-Rapid shutter, Johnson-Peckham lens hood and filter holder, always-ready case **£18**

3097—Ensign Autorange, 2¼" x 2¼", Ensar *f*/3.5 lens, Epsilon shutter, coupled rangefinder, leather case **£17/10/–**

1125—Robot, 24 x 24mm., Tessar *f*/2.8 lens, 8-speed shutter, yellow and green filters, always-ready case **£28**

3020—Agifold, 2¼" x 2¼", Agilux *f*/4.5 lens, 7-speed shutter **£6/15/–**

CINE

3028—Eumig C3 Camera, 8mm., Xenoplan *f*/1.9 lens, 8, 16, 32 frames per second, always-ready case **£45**

2033—Emel 8mm. Camera, Berthiot *f*/1.9 lens, 8, 16, 64 frames per second **£30**

2052—4" Berthiot Cinor *f*/3.5 lens, leather case, **£32**

LITEMASTER FLASH GUN

A compact and thoroughly reliable flashing unit—simplicity in design and quality in both workmanship and materials are your guarantee of continuous trouble-free operation. It is designed to accommodate flash bulbs with either Edison Screw or Bayonet Cap bases; the former are merely pushed firmly into the top of the Head Assembly while the latter are held in a special fitting in the centre of the reflector.

A double-ended camera mounting screw enables the gun to be fitted to any camera. A tapped hole in the mounting arm is provided for tripod mounting if required. A rubber pad protects the camera.

Various size bulbs may be centred in the reflector by slackening the reflector clamp screw and moving the reflector accordingly.

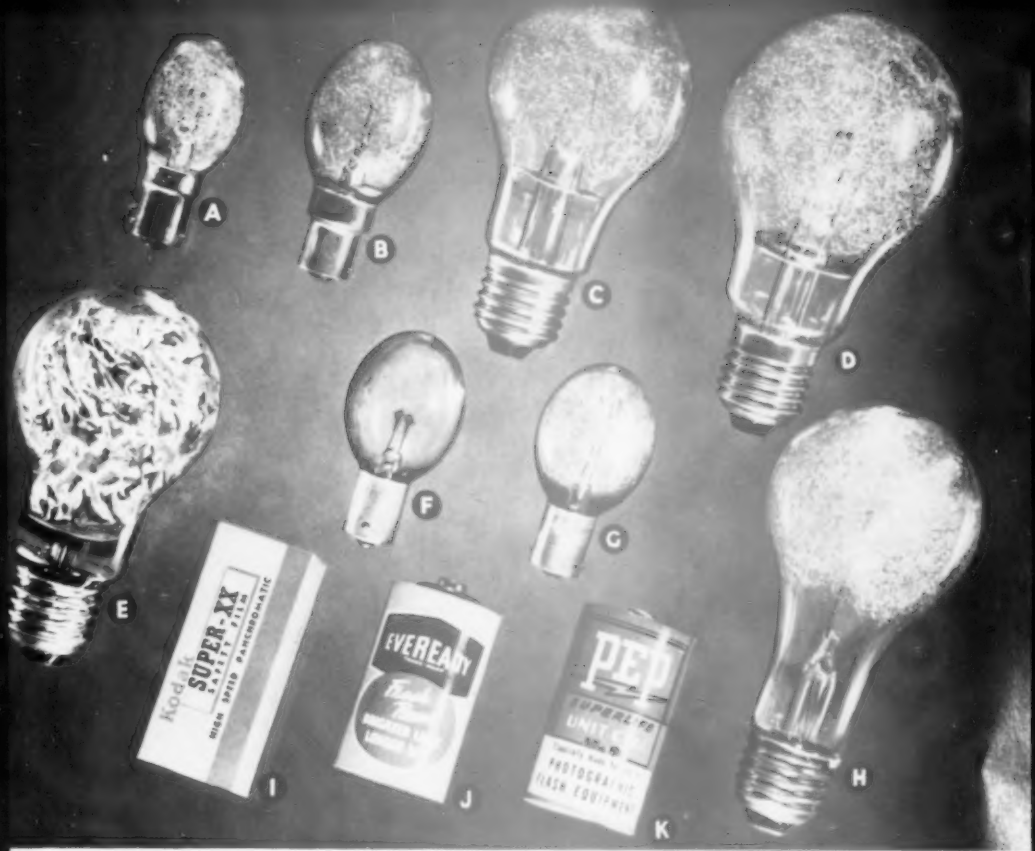
The "Litemaster" Flash Gun may be used in four ways: 1. Open Flash; 2. With cameras having built-in flash contacts or alternatively synchronisation may be effected with the L. & H. Syncroswitch; 3. With solenoid synchronised cameras; 4. As an extension unit with its own battery source.

Where an additional lamp is required a L. & H. Flash Extension Unit may be plugged into the extension outlet.

PRICE: Flash Gun, **£6/17/6**

Lead, **14/6**

From Kodak Dealers Everywhere



11 *Aids to FLASH Success*

A. Philips Photoflux Flashbulb PF14N: Ideal for use in Kodak Flasholders A.S.C.C. base.

B. Philips Photoflux Flashbulb PF25N: Available also in blue and yellow coatings for use with colour films of daylight and tungsten types respectively. A.S.C.C. base.

C. Philips Photoflux Flashbulb PF60E: Blue and yellow coatings also available. E.S. base.

D. Philips Photoflux Flashbulb PF100E: Blue and yellow coatings also available. E.S. base.

G.E.C. No. 3 Photo Flashbulb: A new low-priced bulb very suitable for use in Kodak Flasholders. A.S.C.C.

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Flash freezes action too fast for the eye to follow

In a mere fraction of a second the news cameraman can catch life in an instant, can freeze graceful action, can provide the exciting story-telling pictures in your newspapers, newsreels and magazines. These pictures bring you information and so give you a better understanding of current events and the changing world around you.

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for the News Cameraman . . . and You

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